

CHEVRON MILLS LAKE

P-18

WELL NAME Chetron Mills Lake P-12

FIELD

LOCATION: Unit P Area: 18
Latitude 61-17-50 Section 18 Grid 61-20; 119-00
Longitude 119-02-00
From Established Reference Marker

Rig Release Date:
Status
Information Release Date

CHANGE OF NAME:

DATE RECEIVED	INDEX
	Application for a Drilling Authority.
	Well Completion Data.
	Well History Report.
	Application to Amend a Drilling Authority.
	Application to change a Well Name.
	Application to Abandon a Well or Suspend Drilling.
	Application to Alter Condition of a Well.
	Well History Supplement.
	Well Completion Data.
	Work-over Report No.
	Application to Commingle Production before Measurement.
	Data for Back Pressure Test on Natural Gas Wells — Monograph 7 Method.
	Data for Back Pressure Test on Natural Gas Wells — Vitter's Method.
	M.P.R. — Oil — Calculations.
	New Oil Well Report.
	New Gas Well Report.
	Well Inspection Report.
	Rig inspection Report.
	Battery Inspection Report.
	Equipment Report.
	Well Card.
	New Service Well Report.
	Monthly Water Flood Operations Report
	Monthly Water Receipts and Disposal of Fluids Report
	Logs. Large scale Small scale

CEMENTING RECORD (Plug, Squeeze, etc.)				PERFORATING RECORD (Bullet, Jet)				SERVICING RECORD (Adding, Flaring, etc.)			
Date	From	To	Remarks	Date	From	To	Remarks	Date	From	To	Remarks
March 16/66	1914	1780	60 sax const. cement								
Mar.16/66	258	158	50 sax const. cement plus 2% CaCl ₂ checked at 60 ft.								
Mar.17/66	Surface		5 sax const. cement								

DRILL STEM TESTS

No.	Date	Formation	From	To	V.O. Min.	I.S.I. Min.	F.S.I. Min.	I.S.I.B.H.P.	F.S.I.B.H.P.	I.P.B.H.P.	F.P.B.H.P.	I.H.P.	F.H.P.	REMARKS
1	Mar.11/66	Lump Pellet	1825	1840	180	60	120	923	106	42	78	976	977- 937	Recovered one qt. oil, one foot oil-cut mud and 140 ft. salt water Cl- 75,000 PPM.
2	Mar.12/66	Lump Pellet	1845 1867	1914	180	90	120	902	843	42	89	944	944	Recovered 20 ft. muddy salt water and 140 ft. salt water Cl- 40,000 PPM

Lab. No.	Sample	From	To	Source	Remarks	PRESENT STATUS OF WELL			
E66-686	DST #1	1825 1845	1840	Krg River	Water Sample	Oil		(Interval)	
E66-684	DST #2	1867	1914	Krg River	Water Sample	Gas		(Interval)	
E66-684	Oil	1925	1840	DST #1	Drill Pipe	Dry	Abandoned		
						Susp.			

Company **Chevron Standard Limited**
Signed by *[Signature]*
Title **Division Superintendent**
Date **March 18, 1966**

Forms to be prepared in duplicate and forwarded to the Oil Conservation Engineer, Calgary, Alberta.

DEPARTMENT OF NORTHERN AFFAIRS AND NATIONAL RESOURCES
RESOURCES DIVISION

Application to Abandon a Well or Suspend Drilling

In compliance with the "Canada Oil and Gas Land Regulations", application is made hereby for approval to abandon, to suspend drilling—

Name and number of well Chevron Mills Lake A-18
Location: Unit P Section 18 Grid 61° 20' 118° 00'
Latitude 61° 17' 50" N Longitude 118° 02' 00" W
From Established Reference MarkerPermit No. 3110

Lease No.

Chevron Standard Limited
(Permitter, Licensor, Lessee)

Date of commencement of proposed programme

OIL, GAS, AND WATER ENCOUNTERED
(Depths)

Oil at

Gas at

Water at

Total Depth 1914Date of last operations March 17, 1966Present condition of well Abandoned

CASING RECORD

Casing Size O.D. Inches	Weight	Amount	Set At—	Back of Cement	Method	Amount Pailed
1. <u>7"</u>	<u>20#</u>	<u>198</u>	<u>208</u>	<u>85 & 2# CaCl₂</u>	<u>Tri City</u>	<u>None</u>
2.						
3.						
4.						
5.						

PROPOSED ABANDONMENT PROGRAMME

Plug		Geological Formation	Number of Sacks of Cement	Remarks
No.	Position			
1	<u>1914-1780</u>	<u>Lump pellet Zone</u>	<u>60</u>	<u>No feel</u>
2	<u>258- 158</u>	<u>Across surface casing shoe</u>	<u>50</u>	<u>Checked at 60 Ft.</u>
3	<u>Surface</u>		<u>5</u>	<u>Welded on steel cover plate and steel post with well name.</u>

The following logs have been run..... Induction ElectricOther operations proposed..... NoneOperations to be carried out by Tri-City Drilling Co. Ltd. Contractor Licence No. 24241
Address Edmonton Address 11305 - 120 AvenueResponsible Agent in field R. G. CausgroveDated at Edmonton, this 21st Day of March 19 66Signed by [Signature] Company Chevron Standard LimitedTitle Division Superintendent Exploratory Licence No. 927

Note:—The Oil Conservation Engineer's office must be notified before work is commenced.

(For RESOURCES DIVISION use only)

APPROVAL

This application has been examined and proposed programme approved, subject to the following conditions:

Confirming oral approval given by Mr. B. H. J. Thoms on 16th March 1966Dated 22nd March, 1966

Forms to be submitted in triplicate to Oil Conservation Engineer, Calgary, Alberta



DEPARTMENT OF NORTHERN AFFAIRS AND NATIONAL RESOURCES
RESOURCES DIVISION

Application for a Drilling Authority

This notice of intention to begin drilling operations, in triplicate, and where required a plan of survey approved by the Surveyor General showing the target area or the site of the well must be submitted and approved before commencing operations.

In compliance with the "Canada Oil and Gas Land Regulations", application is made hereby for approval to drill—

Name and number of well **Chevron Mills Lake F-18**
Location: Unit **R** Section **18** Grid **61° 20' 118° 00'**
Latitude **61° 17' 50" N** Longitude **118° 02' 00" W**
From Established Reference Marker

Elevation: Ground **510.2'** **K.B.** feet above sea-level.
Well is expected to produce from **Upper Devonian Carbonate** formation at a depth
of about **1700** feet.

Area assigned to well

(for Oil Conservation Engineer's use only)

Permit No. **3110** Lease No. **-** Acreage **61596**

Permittee, licensee, or lessee **Chevron Standard Limited**

Exploratory Licence No. **927**

Surface owned by Crown or **Crown**

(If alienated submit name and address of owner and occupant.)

Petroleum and natural-gas rights owned by **Crown**

We propose to use the following strings of casing, either cementing or landing them as indicated below:—

Casing Size O.D. (Inches)	Weight (Lb./Ft.)	Grade	Brand	New or Used	Estimated Depth	Sacks of Cement
1. 7"	206	J-55	-	New	210	125
2.						
3.						
4.						
5.						

Expected water, gas, and oil horizons and type of control equipment

Devonian Carbonate

8" - 600 Series Hydril

8" - 600 Series Double Gate Griberson

Well will be drilled with (Rotary) Rig No. **4** by **Tri City Drilling Co. Limited**
(Contractor) (Drilling Contractor or company)

Responsible agent of applicant:—

Contractor's Licence No. **24241**

At well **R. G. Causgrove**

At registered office **R. C. Richardson**

Address **Box 2296, Edmonton**

Address **Box 2296, Edmonton**

It is understood that if changes become necessary, notice of the change of plan will be submitted.

Dated at **Edmonton, Alberta**, this **2nd** day of **March** 19 **66**

Signed by **R. G. Causgrove** Company **Chevron Standard Limited**

Title **Landman** Licence No. **927**

(For Resources Division use only)

APPROVED

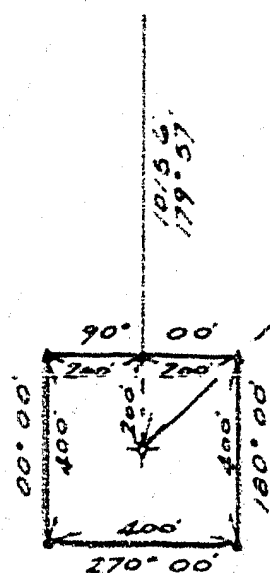
This application has been examined and approved subject to the following conditions:—

The Company will submit to this office, on Tuesday of each week,

the latest reports received by radio on the progress of the well.

Dated **3rd March** 19 **66**

Forms to be submitted to Oil Conservation Engineer, Calgary, Alberta.



DETAIL

Scale: 1 inch = 200 feet

AREA IN WELLSITE: 3.47 ACRES

Chevron Standard Limited PLAN

SHOWING WELLSITE AND TRAVERSE FOR 18

"Chevron Mills Lake P-18"

LAT. = 61° 17' 50" NORTH - LONG. = 118° 02' 00" WEST

GRID AREA: LAT. 61° 20' NORTH - LONG. 118° 00' WEST

NORTHWEST TERRITORIES

SCALE: AS NOTED

SURVEYED: February 22 to 28, 1966

GROUND ELEVATION - 510.2'

I, Lawrence O. Olsen, DOMINION LAND SURVEYOR,
HEREBY CERTIFY THAT THE SURVEY REPRESENTED BY THIS
PLAN WAS MADE UNDER MY PERSONAL SUPERVISION
AND IS TRUE AND CORRECT TO THE BEST OF MY KNOW-
LEDGE AND BELIEF AND WAS COMPLETED ON THE
28th DAY OF FEBRUARY, 1966.

For Chevron Standard Limited,

Lawrence O. Olsen
DOMINION LAND SURVEYOR

W. J. H. H.
WITNESS

LAT
61° 18' N

See
Detail

179° 57'
1015.6'

5986.3'
270° 00'

Scale: 1 inch = 1000 feet

LEGEND

REGULATION POSTS PLANTED ARE SHOWN THUS 0
TRAVERSE STATIONS PLANTED ARE SHOWN THUS 4
BRASS CAP POSTS FOUND ARE SHOWN THUS 6

NOTE

BEARINGS ARE ASTRONOMIC AND ARE REFERRED TO THE MERIDIAN
THROUGH THE PROJECTED N.E. COR. SEC. 36-141-1-6

GROUND ELEV. IS REFERRED TO TOP OF P. AT THE N.E.
COR. SEC. 25-141-1-6 (ELEV. 515.36').

HAMILTON & OLSEN SURVEYS LTD.
EDMONTON - ALBERTA
W.3. 3025, H.F.O. 97-68, 595-51, R.P.K.

45-11-4-48

CHEVRON STANDARD LIMITED

WELL HISTORY REPORT

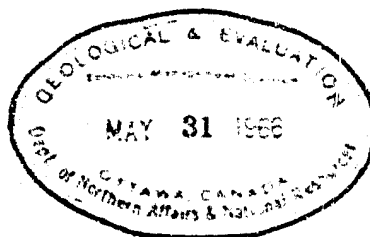
CHEVRON MILLS LAKE P-18

Unit P, Section 18,
Grid 61° 20' - 118° 00'

CONFIDENTIAL

CHEVRON STANDARD LIMITED

11605 - 118 Avenue, Edmonton, Alberta.



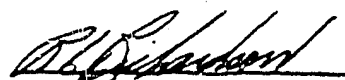
WELL HISTORY REPORT

CHEVRON MILLS LAKE P-18

Unit P, Section 18,
Grid 61° 20' - 118° 00'

DATE: April 26, 1966

SIGNED:


R.C. RICHARDSON
Division Superintendent.

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WELL HISTORY REPORT

Section I - Summary of Well Data

(a) Well Name Chevron Mills Lake P-18

(b) Permittee Chevron Standard Limited
Medical Arts Building
Calgary, Alberta

(c) Licensee Chevron Standard Limited
P.O. Box 2296
Edmonton, Alberta

Operator Chevron Standard Limited
P.O. Box 2296
Edmonton, Alberta

(d) Location Unit P, Section 18
Grid 61°20' N 118°00' W.

(e) Co-ordinates Latitude - 61°17' 50" N.
Longitude - 118°02' 00" W.

(f) Permit Number 3110 (License No. 927)

(g) Drilling Contractor Tri City Drilling Co. Ltd., Rig #4,
95' L.C. Moore Telescoping Derrick

(h) Drilling Authority No. 231 - issued March 3, 1966

(i) Classification Wildcat

(j) Elevation Ground: 510.2 K.B. 521

(k) Spudded 9:30 A.M. March 6th, 1966

(l) Completed Drilling 3:00 A.M. March 13th, 1966

(m) Total Depth 191h Driller
191h Schlumberger

(n) Well Status Abandoned

(o) Rig Released 3:00 A.M. March 17, 1966

(p) Hole Size 9 7/8" 0 - 213'
6 1/4" 213 - 191h'

(q) Casing	Size	Type	Weight	Set at	Sax of Cement
	7"	J-55	20#	208.48'	85 + 2% CaCl ₂

Section II - Geological Summary

(a) Formation Tops

	<u>Depth</u> <u>(sample)</u>	<u>Depth</u> <u>(log)</u>	<u>Elevation</u> <u>(log)</u>
May River Shale	30	-	- 491
Mills Lake Member	1430	1480	- 959
Keg River	1730	1730	-1209
Chinchaga	1879	1880	-1359
T.D.	1914	1914	-1393

(b) Cored Intervals

1800' - 1817' - Recovered 17.2'
1817' - 1840' - Recovered 23.2'
1840' - 1867' - Recovered 27.2'
1867' - 1914' - Recovered 47'

(c) Core Descriptions - see sample descriptions.

(d) Sample Descriptions - see appendix.

Section III - Engineering Summary

(a) Drill Stem Tests:

For D.S.T. Charts and Pressure Reports - See Appendix B.

All pressures are corrected from field measurements.

D.S.T. #1 1825 - 1840' (Keg River Formation) Bottom Hole Test
 Preflow 10 minutes - faint blow of air.
 Initial shut in - 60 minutes. Final flow (VO) - 180 minutes.
 Final shut in - 120 minutes.
 Flow period - steady faint blow of air for 180 minutes. No gas or fluid to surface. Recovered (one qt.) of dark brown oil. 1 ft. of oil cut mud, 140 ft. salt water, 1 ft. of water cut mud above tool. Formation Temperature @ 88°F.
 IHP 963, FHP 927, ISIP 904, PSIP 86, IFP 20, FFP 55 psi.

D.S.T. #2 1845 - 1914' (Keg River and Chinchaga Formations) Bottom Hole Test
 Preflow 10 minutes - faint air blow.
 Initial shut in - 60 minutes. Final flow (VO) - 180 minutes.
 Final shut in - 120 minutes.
 Flow period - very faint air blow for 180 minutes. No gas or oil to surface.
 Recovered - 140' muddy salt water (sulphorous), 20 ft. water cut mud above the tool. Formation Temperature @ 96°F.
 IHP 945, FHP 943, ISIP 903, PSIP 839, IFP 31, FFP 89 psi.

(b) Casing Record:

Only surface casing run.

<u>Size</u>	<u>Type</u>	<u>Weight</u>	<u>Set at</u>	<u>Sax of Cement</u>
7"	J-55	20#	208.48'	85 + 2% CaCl ₂

(c) Bit Record:

<u>Number</u>	<u>Size</u>	<u>Serial</u>	<u>Kind</u>	<u>From</u>	<u>To</u>	<u>Footage</u>	<u>Hours on Bottom</u>
1 A	9 7/8	706210	YSI (Reed)	0 - 213	(213')	8.75	
1	6 1/4	64688	OSC-3(HW)	213-1506	(1293')	12.75	
2	6 1/4	63955	OSC-1G(HW)	1506-1800	(294')	11.00	
1 B	6 1/8	6633-C	Diamond (American-Goldset)	1800-1904	(114')	48.78	

(d) Mud Report:

<u>Type Materials</u>	<u>Sacks - Quantity</u>	
Magcogel	118	- 100#
Caustic Soda	15	- 50#
Sawdust	14	-
Quebracho	9	- 50#
Bicarb of Soda	1	- 100#
Fiberseal	0	- 30#
Tannathin	16	- 50#
Soda Ash	14	- 100#
Sapp	1	- 100#

(e) Deviation Record:

A "Sure Shot" deviation recorder was used.

<u>Depth</u>	<u>Reading (in degrees)</u>
100	.75
200	1.0
500	0.0
1014	1.25
1506	1.75
1914	1.75

(f) Abandonment Plugs:

Plug #1 (1914' - 1780')

Mixed 60 sax construction cement into a 15.5 p.p.g., slurry.
Preceded cement with 10 bbls. water and displaced cement
with 12.5 bbls. water.

Plug #2 (258' - 158')

Mixed 50 sax construction cement + 2% CaCl_2 into a 15.5 p.p.g.
slurry. Preceded cement with 2 bbls. water and displaced with
1.5 bbls. water. Cement in Place at 4:30 p.m., March 16, 1966.

March 17, 1966 - Ran in and felt plug #2 at 60 ft., at 12:30 a.m.

Ran in 5 sax cement at top of surface casing, welded steel plate
on top of casing.

(g) Lost Circulation Zones:

NONE

(h) Blowout:

NONE

Section IV - Logs (Forwarded previously under separate cover)

Run #1 at final T.D. on March 15, 1966 by Schlumberger.

Induction Electrical Log

2" - 100' @ 198' - 1914'
5" - 100' @ 198' - 1914'

Section V - Analysis

(a) Core Analysis:

None

(a¹) Sample Description:

(b) Water Analysis: *See Appendix B*

(c) Gas Analysis:

None

(d) Oil Analysis: *See Appendix C*

(e) Drill Stem Tests (Charts & Pressure Records):

APPENDIX A

Sample Description

Sample Description

CHEVRON MILLS LAKE P-18

- 0 - 30' Drift, coarse sand and gravel.
- 30 - 500' Shale, medium grey, calcareous, micromicaceous, flakey, soft.
- 500 - 530' Shale, medium grey, calcareous, silty, micromicaceous, flakey.
- 530 - 540' Limestone, medium brown, pelletoid 70%, fine fraction 30%, silty trace argillaceous.
- 540 - 580' Shale, medium grey, calcareous, micromicaceous, flakey.
- 580 - 600' Limestone, light grey-brown, microcrystalline, argillaceous.
- 600 - 640' Shale, medium grey, calcareous, micromicaceous, flakey, silty interbeds, pyrite at base.
- 640 - 670' Limestone, medium grey-brown, microcrystalline, argillaceous, abundant pyrite.
- 670 - 1195' Shale, medium grey, calcareous, micromicaceous, carbonaceous flecks, massive to flakey, occasional thin interbeds of argillaceous microcrystalline limestone, and siltstone, calcareous.
- 1195 - 1200' Siltstone, brown, calcareous, 10% coarse fraction, hard, massive.
- 1200 - 1210' Shale, medium grey, micromicaceous, non-calcareous, flakey.
- 1210 - 1220' Shale, medium to dark brown, calcareous, sandy, very bituminous, trace fossil fragments, trace siltstone interbeds.
- 1220 - 1240' Shale, medium grey, flakey with interbeds siltstone and microcrystalline brown limestone.
- 1240 - 1250' Limestone, medium grey, microcrystalline, silty, argillaceous.
- 1250 - 1350' Shale, light to medium grey, slightly calcareous, micromicaceous, carbonaceous flecks.
- 1350 - 1370' Limestone, light grey-brown to cream, microcrystalline, argillaceous, silty.
- 1370 - 1395' Shale, medium to light grey, micromicaceous, massive to flakey.
- 1395 - 1405' Shale, dark brown, very bituminous, massive.

- 1405 - 1410' Shale, medium grey, flakey.
- 1410 - 1430' Limestone, cream to light brown, microcrystalline, silty, argillaceous.
- 1430 - 1445' Shale, medium - dark grey, flakey, silty, trace siltstone interbeds.
- 1445 - 1470' Limestone, light brown, very argillaceous, microcrystalline.
- 1470 - 1480' Shale, light to medium brown, microcrystalline, very calcareous, massive.
- 1480' Mills Lake member
- 1480 - 1510' Limestone, light to medium brown, very argillaceous, microcrystalline, borderline to shale.
- 1510 - 1590' Shale, medium to dark grey-brown, very calcareous, almost limestone, massive.
- 1590 - 1640' Shale, dark brown, very bituminous, massive, some pyrite, dark shale top 1610'.
- 1640 - 1690' Shale, medium to dark grey-brown, very calcareous, massive, some interbeds dense hard bituminous shale.
- 1690 - 1700' Shale, dark brown, very bituminous and calcareous, massive.
- 1700 - 1730' Limestone, medium - dark brown, microcrystalline, very bituminous, fragments of brachiopods and Tentaculites, coarse fraction 10 - 20%.
- 1730' Top Keg River
- 1730 - 1800' Limestone, medium brown, fine fossiliferous fragments 20-30%, Microcrystalline matrix 70-80%. Abundant ostracods, some crinoidal fragments and brachiopods.
- Core #1 - 1800 - 1817' - Recovered 17.2'
- Core #2 - 1817 - 1840' - Recovered 23.2' 22.2'
- Core #3 - 1840 - 1867' - Recovered 27.2'
- Core #4 - 1867 - 1914' - Recovered 47'

Core Description

- 1800 - 1834' Limestone, as above.
- 1834 - 1840' Limestone, light to medium brown, pellets 70%, spar 22-30%
2-6% pin point vuggy porosity, some fractures.
- 1840 - 1848' Limestone, as above, but no porosity, laminated, bituminous
partings.
- 1848 - 1876' Dolomite, light brown, crystalline with thin limestone
interbeds as above, with generally stylolitic contacts.
Trace to 6% porosity with some small pin point vugs,
main porosity earthy. Positive hydrocarbon cut, no oil
staining.
- 1876 - 1880' Anhydritic dolomite, medium grey-brown, crystalline,
with blobs of anhydrite, thin laminae of anhydrite,
some insipient brecciation.
- 1880' Top Chinchaga
- 1880 - 1907' Anhydrite, medium grey to brown, dolomitic, with thin
laminae of pure anhydrite, slightly argillaceous, some
dark shaly partings.
- 1907 - 1911' Dolomite, light brown, crystalline, slightly anhydritic,
1" shaly bed at 1911'.
- T.D. 1911'

APPENDIX B

Water Analysis

CHEMICAL & GEOLOGICAL LABORATORIES LTD.

WATER ANALYSIS

Lab No. E66-606

Received: March 28, 1966 Reported: April 19, 1966

Well: Location: Chevron Mills Lake P-18 Location: Lat.: 61°-17'-50"N.
Longt.: 118°-21'-00"W.

Operator: Chevron Standard Limited Field or Area: (Wildcat)

Elev.: K.B. 510' Grd. 521' Zone/Formation: Keg River

Sample Interval: 1825' - 1840'

Method of Production: D.S.T. #1

Sampled from: D.S.T.

Sampled by: Operator Date: March 11, 1966

OTHER PERTINENT DATA

Recovered 1 quart oil -140' salt water. Sampled 70' above tool.

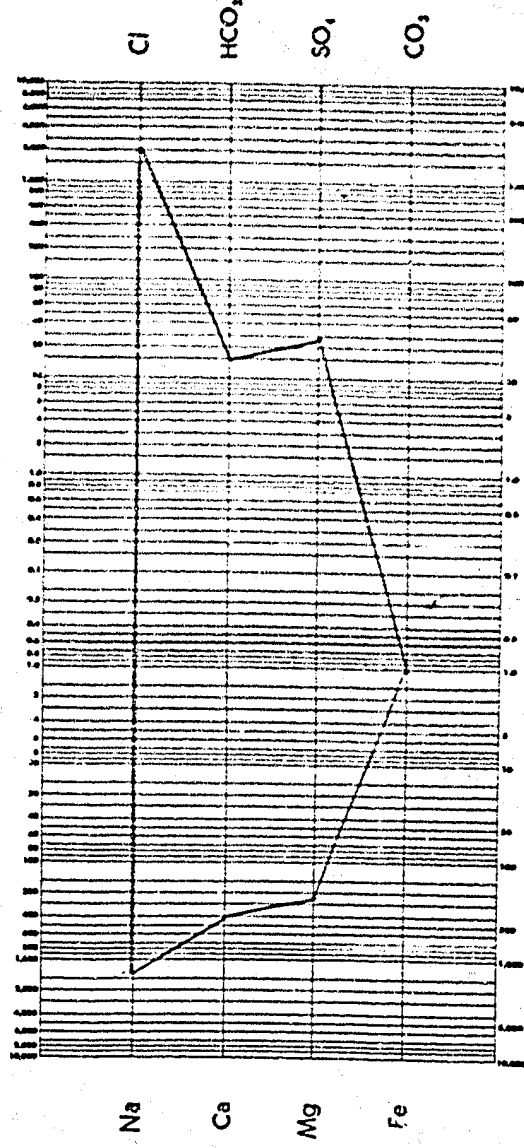
Reservoir pressure 923# psi. Pressure at point of sampling 0 psig. Temperature at point of sampling -20°F.
Mud Type: gyp base.

(Signed) G. Nagy-Raselly
Chevron Standard Ltd.

	NaClK	Ca	Mg	SO ₄	Cl	CO ₂	HCO ₃	
Mg./L	32,082	0,376	3,170	1,407	72,000		920	
Meq./L	1395.57	417.96	261.23	29.27	2030.40		15.09	
Meq. %	33.63	10.07	6.30	0.71	48.93		0.36	

Total Solids Mg/L: By Evaporation 130,500 Fe NH Specific Gravity 1.082 @60°F Observed pH 7.3 @ 70 °F
Calculated 117,963 After Ignition 100,100 H₂S NH Refractive Index 1.3575 @25°C Resistivity 0.000 ohm meters @ 60 °F

Pattern Unit Meq./L



Remarks and Conclusions

No record of Keg River formation waters from this area, with which to correlate this analysis.

CHEMICAL & GEOLOGICAL LABORATORIES LTD.

WATER ANALYSIS

Lab No. E66-684

Received: March 28, 1966 Reported: April 19, 1966

Operator: Chevron Standard Limited

Elev.: K.B. 521' Grd. 510' Zone/Formation: Keg River

Method of Production: D.S.T. #2

Well: Location: Chevron Hills Lake P-18 Location: Lat. 61°17'50"N.
Long. 118°21'00"W.

Field or Area: (Wildcat)

Sampled from: Drillpipe

Sample Interval: ^{150'} 1867' - 1914' Sampled by: Operator Date: March 12, 1966

OTHER PERTINENT DATA

Recovered: 20' muddy salty water and 140' salt water. Reservoir pressure 902.

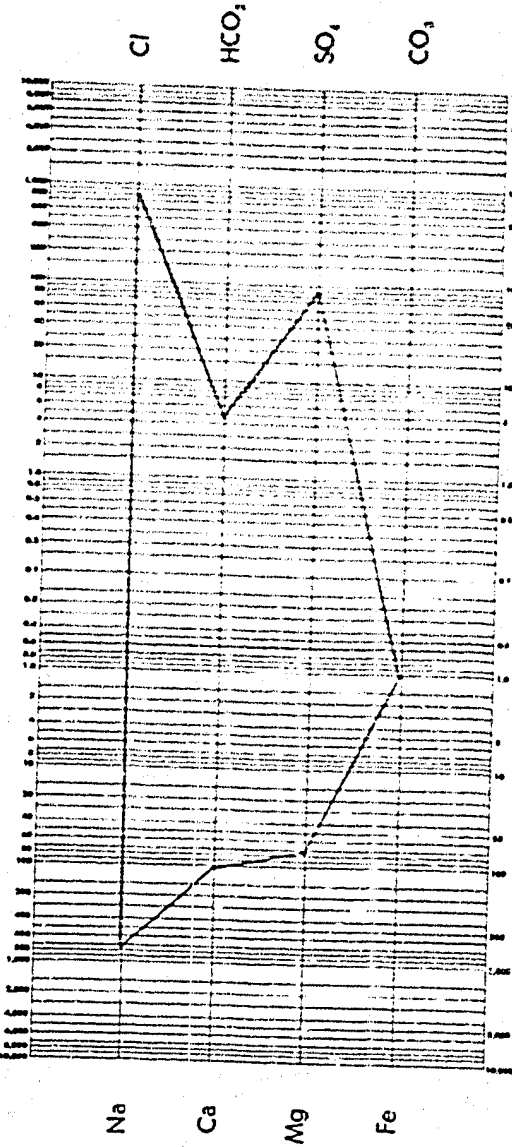
Pressure at point of sampling 0 psig. Temperature at point of sampling -20°F. Sampled 80' above tool.

G - Nagy - Kinsally
(Signed) Chevron

Mg./L	Na&K	Ca	Mg	SO ₄	Cl	CO ₃	HCO ₃
16,625		2,090	916	4,263	28,700		290
Meq./L	723.18	104.29	75.30	80.67	809.34		4.76
Meq. %	40.05	5.78	4.17	4.91	44.83		0.26

Total Solids Mg/L: By Evaporation 56,330 Fe Nil Specific Gravity 1.039 @ 60°F Observed pH 7.9 @ 69 °F
Calculated 52,084 After Ignition 48,650 H₂S Nil Refractive Index 1.3450 @ 25°C Resistivity 0.156 ohm meters @ 60 °F

Pattern Unit Meq./L



Remarks and Conclusions

The sample is mud filtrate diluted.

APPENDIX C

Oil Analysis

CHEMICAL & GEOLOGICAL LABORATORIES LTD.

Edmonton — Port St. John — Calgary

OIL ANALYSIS REPORT: Lab. No. E66-683 Received: March 28, 1966 Reported April 15, 1966

Well: Chevron Mills Lake P-18 Operator: Chevron Standard Limited

Field or Area (Wildcat) Location: L. = 61°17'50"N. Elev. K.B. 521' Grd. 516'
Longt. = 118°2'00"W.

Zone and Formation: Keg River Sample Interval: 1825' - 1840'

Method of Production: Well Production or Recovery at Sampling Time:
Recovered 1 quart oil and 140' salt water.

Sampled from: Drill pipe Sampled by: Operator Date: March 11, 1966

OTHER PERTINENT DATA

" SEE INFORMATION SHEET "

COLOR

B.S.&W. Total 35 % Water 18 % Sediment 17 %
Gravity: Specific 0.899 at 60/60°F.
A.P.I. 25.90 at 60/60°F.
Total Sulfur 1.82 % (by weight)
Pour Point +70 °F.
Salt Content lbs. per 1000 bbls. crude.
Reid Vapor Pressure psig. at 100°F.
Conradson Carbon 4.27 % (by weight)

Viscosities:

Temp. °F.	Absolute Centipoises	Kinematic Centistokes	Saybolt Universal Seconds
30	89.0	99.8	462.
90	34.5	38.8	181.
100	25.5	28.8	136.

REMARKS:

The sample contained approximately 70 mls. of oil. There was insufficient oil for any further analysis.

The crude has a characterization factor of 11.8 (U.O.P. Method 375).

DISTILLATION

Barometric Pressure mm. Room Temp. °F

%
Distilled Temp.
°F.

I. B. P.

DISTILLATION SUMMARY

%

400°F Naptha

525°F Kerosine

650°F Light
Gas Oil

Recovered

Residue

Distillation
Loss

OIL AND GAS CONSERVATION BOARD (PROVINCE OF ALBERTA)

STANDARD SAMPLE INFORMATION SHEET

INFORMATION TO BE FORWARDED WITH EACH SAMPLE OF WATER, OIL OR GAS (Please supply as much of the following information as possible. Please Print Clearly.)

Kind of sample (water, oil or gas):

Marks on sample container: None

Sample obtained by: Operator

Date: March 11/66

Operator: Chevron Standard Ltd.

Mailing address for results: 14605 - 118th Ave

Well name and No. Chevron Mills Lake P-18 Field or Area: Wildcat
L₂ 61° 17' 50" N & Longt. 118° 2' 00" W.

Located in: L.S.D.

Elev: K.B. 521
Grd. 516

Sample obtained from (line, tubing, separator, etc.): Drill pipe

Pressure: (a) at point of sampling

psig. 0

(b) Gas Bomb pressure

psig. NA

Temperature: (a) at point of sampling

°F -20

(b) Separator

(c) Treater NA °F

Name of Zone and Formation: Keg River

Method of Production: D.S.T., / Pump N/A Flowing, N/A Swabbing N/A

Other (specify) N/A

If D.S.T. sample, D.S.T. results: D.S.T. #1

Interval 1825 to 1840 Water Cushion N/A ft.

Mud Type: gyp base

Height sample taken above tool: 141'

Recovery 1 qt oil - 140' salt water

Well production at sampling time: Oil N/A Bpd;

Gas N/A MCFD; Water N/A Bpd.

Perforations or open hole interval: 1825 - 40

Pressures: Reservoir 923# , Tubing N/A , Casing N/A , Separator N/A

REMARKS:

G Nagy-Kaselly

(Signed)

Chevron.

(Company)

APPENDIX D

Drill Stem Tests

Charts and Pressure Records

DRILL STEM TESTERS LIMITED

EDMONTON: PHONE 433-7723
ESTEVAN: PHONE 434-2017

CALGARY: PHONE 269-2725
BROOKS: PHONE 343-3407

Mailing Address: Box 4182, Edmonton, Alberta

TEST NUMBER

1

Date MARCH 11TH, 1966
Customer CHEVRON STANDARD LTD.
14605 - 118TH AVENUE
EDMONTON, ALBERTA
Well Name CHEVRON MILLS LAKE P-18
Location _____
Area FORT PROVIDENCE, N.W.T.
Formation KEG RIVER
Est. Pay Thick 5'
Ticket No. 6465
Purchase Order No. 54701

Interval 1825' TO 1840'
Test Duration 370 MINUTES
Initial Hydrostatic 963
Final Hydrostatic 927
Initial Flowing 20
Final Flowing 55 after 180 mins.
Initial Shut-In 908 after 60 mins.
Final Shut-In 86 after 120 mins.
Blow WEAK & DECREASING
Recovery 1' MUD, 1' OIL
138' WATER

Mud Type GEL CHEM. Size Full Hole 6 1/2" Size Rubber 5 1/2"
Mud Wt. 10 Size Ret Hole 6 1/8" O.D. Drill Collar 4 1/2"
Vis. 70 Size & Type Pipe 3 1/2" I.P. O.D. S/s or T.J. _____
W. L. 6.0 Time Circulated 3 Hrs. Tool Length 37.85'
pH 10.5 Where Circulated ON BOTTOM Ret Hole Length 40.00'
F. C. 2/32 Bit off Bottom 4:00 A.M. Difference 2.15'
Condition GOOD Formation KEG RIVER Total Depth 1840'
TEST EXTRAS: SAFETY JOINT, JARS, DOUBLE SHUT IN, PUMP OUT SUP.

Type of Test SINGLE BOTTOM HOLE Wt. to Set Packer 30,000 5,000. To Pull Loose
Initial Puff FAIR Gas Flow _____ Size Bean 1/2" Fluid Cushion _____
Temp. 84 Gravity _____ No. Drill Collars 8 Length 238.08 I.D.'s 1 1/8"

PRESSURES

FLUID RECOVERY

Started In 6:00 A.M. Recorder No. 1751
Tool Open 7:20 A.M. Depth Run 1830'
" Closed 7:30 A.M. Hydrostatics 963-927
" Open 8:30 A.M. Flow 20-55
" Closed 11:30 A.M. Initial S.I.P. 908
" Loose 1:30 P.M. Final S.I.P. 86
" Out 3:00 P.M. Difference 822

	1751	1536
	1830'	1835'
	963-927	957-916
	20-55	23-47
	908	900
	86	76
	822	824

Mud 1'
Oil 1'
Water 138'
Total 140'
Sampled at _____

Description of Fluid 1' OIL CUT MUD, 1' OIL, 138' SALTY SULPHUROUS WATER

Witnessed By: G.D. NAGY-KISZELLY, DRILLER & CREW

REMARKS: WEAK AIR BLOW, - DECREASING TO VERY WEAK

TEST SATISFACTORY

LEO PENNER
Test Supervisor

G.D. NAGY-KISZELLY
Customer's Representative

D.S.T. # 1 WELL NAME CHEVRON MILLS LAKE P-18

DEFINITIONS

P_w = Shut in well pressure, particularly F.S.I.P. psi
 P_f = Flowing well pressure, particularly F.F.P. psi
 P_o = Reservoir pressure from F.S.I.P. or plot psi
 T = Time of test influence on reservoir usually flowing time - minutes
 t = Convenient incremental time - minutes
 Q = Daily rate of flow - mcf/day or bbls./day
 m = Slope of build up curve
 $E.D.R.$ = Estimated damage ratio

μ = Viscosity - centipoise
 k = Permeability - millidarcy
 h = Pay thickness - feet
 Z = Gas deviation factor
 $A.O.F.$ = Absolute open flow - million cubic feet/day
 $P.I.$ = Productivity index - mcf. or bbls./day/psi
 $g.o.$ = Subscript denotes gas or oil
 B = Formation volume factor

BUILD UP PRESSURE							FLOWING PRESSURE						
Rec. # 1751		Rec. # 1536		P_w	t	$T+t$	Rec. #		Rec. #		P_f	t	Q
Initial	Final	Initial	Final				Initial	Final	Initial	Final			
108	59	80	52	55	10	19.	11	19		22	20	10	
877	60	859	52	56	20	10.		20		21	20	20	
897	64	887	54	59	30	7.		21		22	21	30	
903	66	894	58	62	40	5.5		23		21	22	40	
907	69	898	59	64	50	4.6		24		22	23	50	
908	71	900	62	66	60	4.		28		22	25	60	
	73		64	68	70	3.57		30		23	26	70	
	78		65	71	80	3.25		31		24	27	80	
	79		68	73	90	3.		32		27	30	90	
	82		70	76	100	2.8		37		28	32	100	
	85		73	79	110	2.63		40		32	36	110	
	86		76	81	120	2.5		42		33	38	120	
								45		37	41	130	
								47		40	44	140	
								48		41	45	150	
								52		41	47	160	
								54		45	49	170	
								55		47	51	180	

$T = 180$
 $P_o = 86$
 $P_f = 55$

m = slope of straight line portion of build up curve 50

$$k h = \frac{162.6 Q \mu B}{m_o} \quad \text{or} \quad \frac{1637 Q_g \mu Z \text{ temp}}{m_g} \quad \frac{162.6 \times 8 \times 1 \times 1}{50} = 26. \quad \frac{\text{psi}}{\text{cycle md ft}}$$

$$E.D.R. = \frac{P_o - P_f}{m_o (\log T + 1.75)} \quad \text{or} \quad \frac{P_o^2 - P_f^2}{m_g (\log T + 3.85)} \quad \frac{86 - 55}{50 (2.25 + 1.75)} = .15 \quad (1) \text{ no dimension}$$

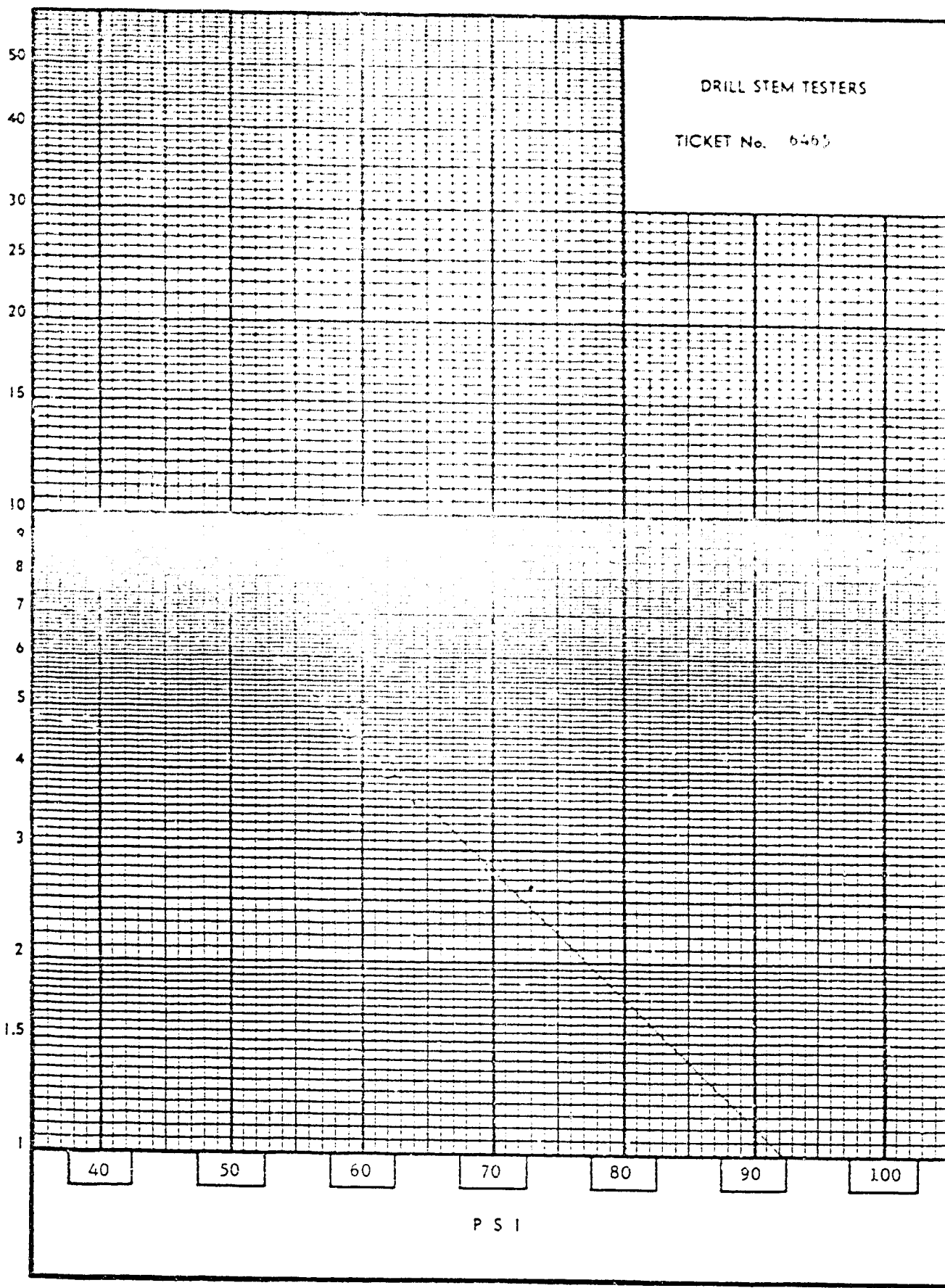
$$\frac{k}{h} = \frac{k h}{h}$$

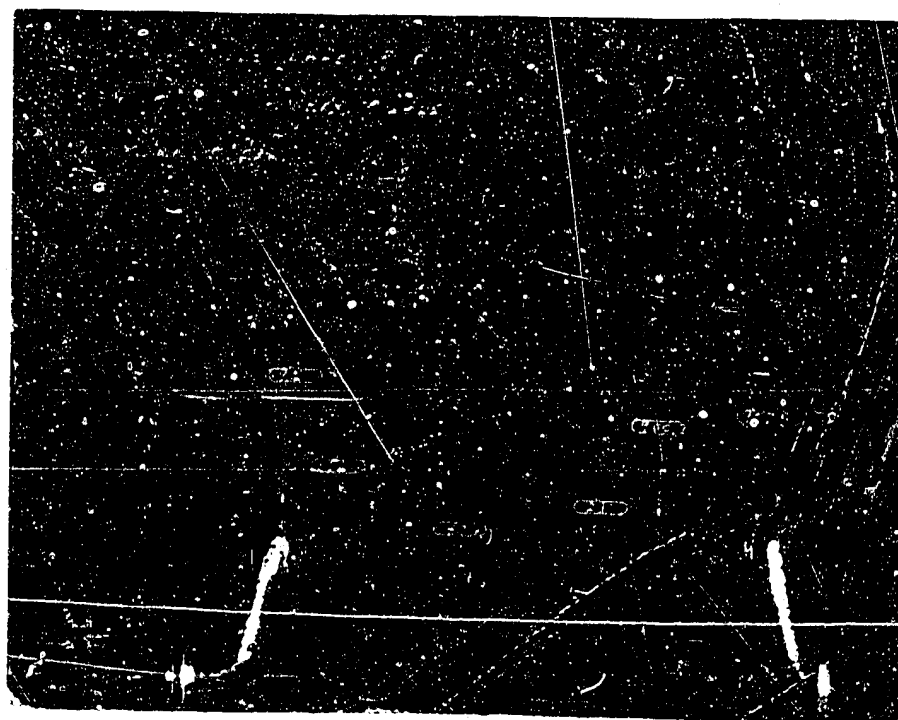
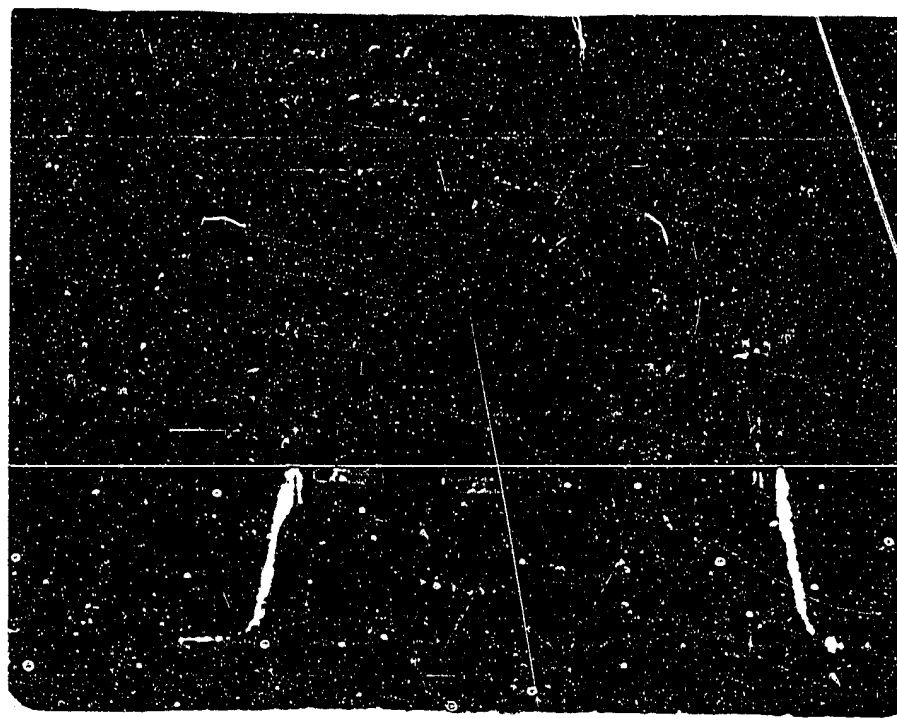
$$P.I. = \frac{Q_o}{P_o - P_f} \quad \text{or} \quad \frac{Q_g}{P_o^2 - P_f^2} \quad \frac{8}{86 - 55} = .258 \quad \frac{\text{bbls/day/psi}}{\text{mcf/day/psi}}$$

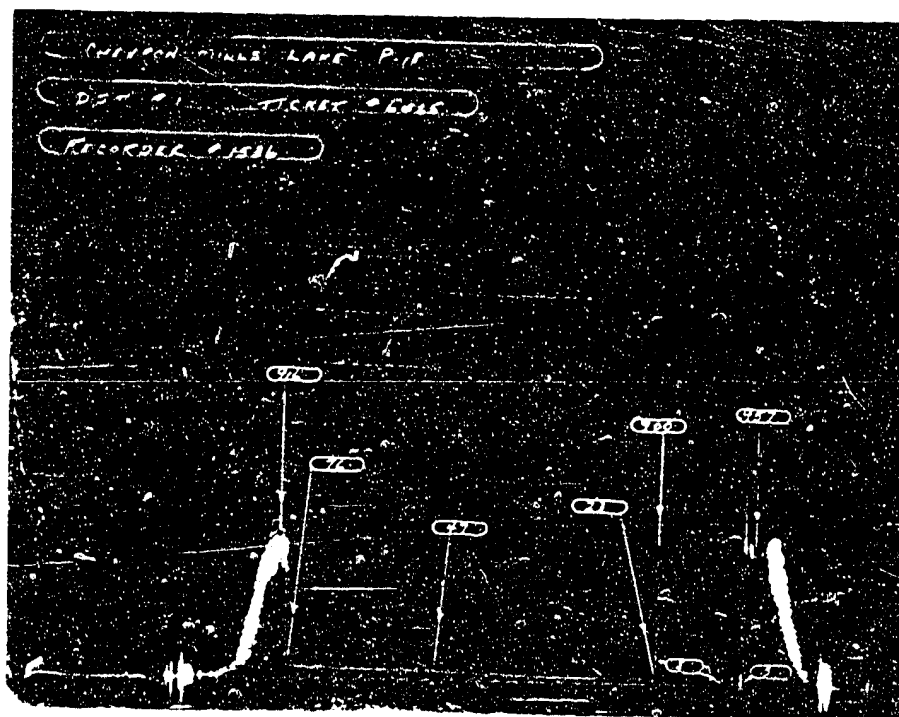
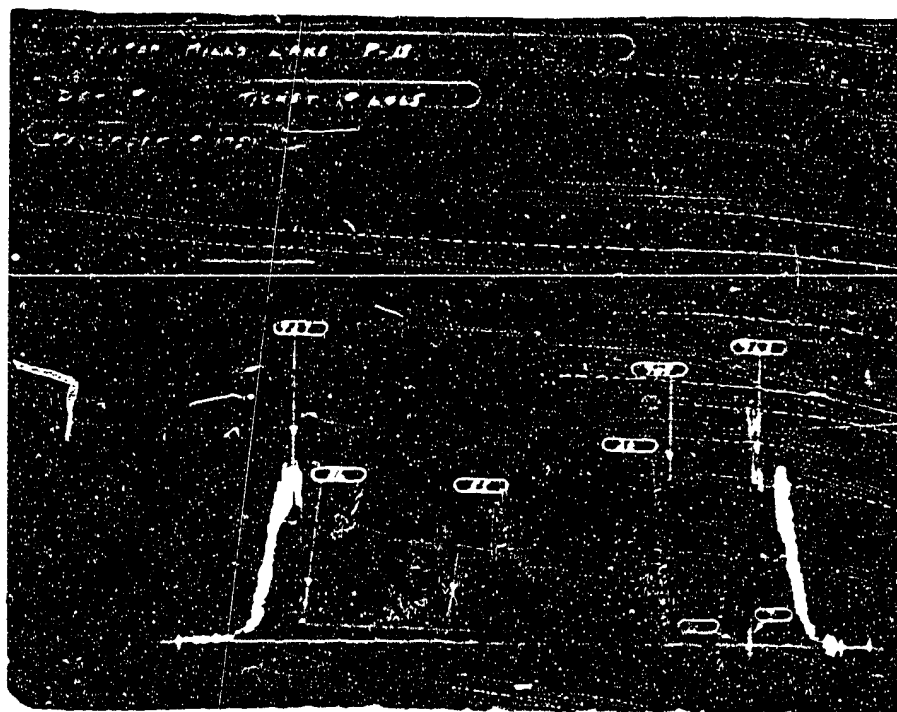
ASSUMPTIONS AND LIMITATIONS

Interpretation calculations require necessary assumptions to provide a quick estimation of many of the factors involved. Consequently, the calculations herein should be used as an estimate only, pending more complete analysis and testing. Drill Stem Testers makes no warranty express or implied as to the accuracy of such calculations, evaluations, or opinions, and shall not be liable for any loss or damage, whether due to negligence or otherwise, in connection with such calculations and opinions.

1 1 1 1







DRILL STEM TESTERS LIMITED

EDMONTON, PHONE 433-7773
ESTEVAN, PHONE 634-3017

CALGARY, PHONE 269-3725
BROOKS, PHONE 343-3407

Mailing Address: Box 4182, Edmonton, Alberta

TEST NUMBER

2

Date MARCH 13TH 1966
Customer CHEVRON STANDARD LTD.
14605 - 118TH AVENUE
EDMONTON, ALBERTA
Well Name CHEVRON MILLS LAKE P-18
Location
Area PROVIDENCE, N.W.T.
Formation KEG RIVER
Est. Pay Thick.
Ticket No. 6466
Purchase Order No. S-4701

Interval 1845' TO 1914'
Test Duration 370 MINUTES
Initial Hydrostatic 945
Final Hydrostatic 943
Initial Flowing 31
Final Flowing 89 after 180 mins.
Initial Shut-In 903 after 60 mins.
Final Shut-In 839 after 120 mins.
Blow VERY WEAK
Recovery 20' MUD, 140' WATER

Mud Type GEL - CHEM Size Full Hole 6 1/2" Size Rubber 5 1/2"
Mud Wt. 9.6 Size Rat Hole 6 1/8" O.D. Drill Collar 4 1/2"
Vis. 81 Size & Type Pipe 3 1/2" I. F. O.D. Sub or T.J.
W. L. 10.0 Time Circulated 1 Hrs. Tool Length 35'
pH 10 Where Circulated ON BOTTOM Rat Hole Length 114'
F. C. 2/32 Bit off Bottom 7:30 A.M. Difference
Condition GOOD Formation KEG RIVER Total Depth 1914'
TEST EXTRAS: SAFETY JOINT, JARS, DOUBLE SHUT IN, PUMP OUT SUB.

Type of Test SINGLE BOTTOM HOLE Wt. to Set Packer 30,000 20,000 To Pull Loose
Initial Puff FAIR Gas Flow Size Bean 3" Fluid Cushion
Temp. 96 Gravity No. Drill Collars 6 Length 270' I.D.'s 1 7/8"

PRESSURES

FLUID RECOVERY

Started In	Recorder No.	1751	1536
9:00 A.M.	Depth Run	1850'	1835'
Tool Open 9:50 A.M.	Hydrostatics	945-943	939-934
" Closed 10:00 A.M.	Flow	31-89	28-85
" Open 11:00 A.M.	Initial S.I.P.	903	894
" Closed 2:00 P.M.	Final S.I.P.	839	829
" Loose 4:00 P.M.	Difference	64	65
" Out 5:15 P.M.			

Mud 20'
Oil
Water 140'
Total 160'
Sampled at

Description of Fluid 20' SALTY WATERY MUD, 140' MUDDY SALT WATER

Witnessed By G.D. NAGY-KISZELLY; TOOL PUSH; DRILLER & CREW.
REMARKS: VERY WEAK AIR BLOW THROUGHOUT TEST.

TEST SATISFACTORY

LEO PENNER
Test Supervisor

G.D. NAGY-KISZELLY
Customer's Representative

D.S.T. # 2 WELL NAME CHEVRON MILLS LAKE P-18

DEFINITIONS

P_w = Shut in well pressure, particularly F.S.I.P. psi
 P_f = Flowing well pressure, particularly F.F.P. psi
 P_o = Reservoir pressure from F.S.I.P. or plot psi
 T = Time of test influence on reservoir usually flowing time - minutes
 t = Convenient incremental time - minutes
 Q = Daily rate of flow - mcf/day or bbls./day
 m = Slope of build up curve
 $E.D.R.$ = Estimated damage ratio

μ = Viscosity - centipoise
 k = Permeability - millidarcy
 h = Pay thickness - feet
 Z = Gas deviation factor
 $A.O.F.$ = Absolute open flow - million cubic feet/day
 $P.I.$ = Productivity index - mcf. or bbls./day/psi
 $g.o.$ = Subscript denotes gas or oil
 B = Formation volume factor

BUILD UP PRESSURE							FLOWING PRESSURE						
Rec. = 1751		Rec. = 1536		P_w	t	$T+t$	Rec. = 1751		Rec. = 1536		P_f	t	Q
Initial	Final	Initial	Final				Initial	Final	Initial	Final			
786	521	789	500	510	10	19.	24	35	24	31	33	10	
849	667	843	646	656	20	10.		40		32	36	20	
875	720	866	713	716	30	7.		45		36	40	30	
890	752	880	741	746	40	5.5		43		39	41	40	
898	773	889	763	768	50	4.6		48		41	44	50	
903	788	894	780	784	60	4.		51		46	48	60	
	801		793	797	70	3.57		53		49	51	70	
	812		802	807	80	3.25		56		52	54	80	
	820		811	815	90	3.		60		55	57	90	
	828		818	823	100	2.8		62		58	60	100	
	834		825	830	110	2.63		66		62	64	110	
	839		829	834	120	2.5		70		65	68	120	
								73		68	71	130	
								76		70	73	140	
								79		75	77	150	
								84		77	81	160	
								86		81	84	170	
								89		85	87	180	

$T = 180$
 $P_o = 839$
 $P_f = 89$

m = slope of straight line portion of build up curve 248

$$k h = \frac{162.6 Q \mu B}{m_o} \quad \text{or} \quad \frac{1637 Q g \mu Z \text{ temp}}{m_g} \frac{162.6 \times 10 \times 1 \times 1}{248} = 6.556 \quad \frac{\text{psi}}{\text{cycle md ft}}$$

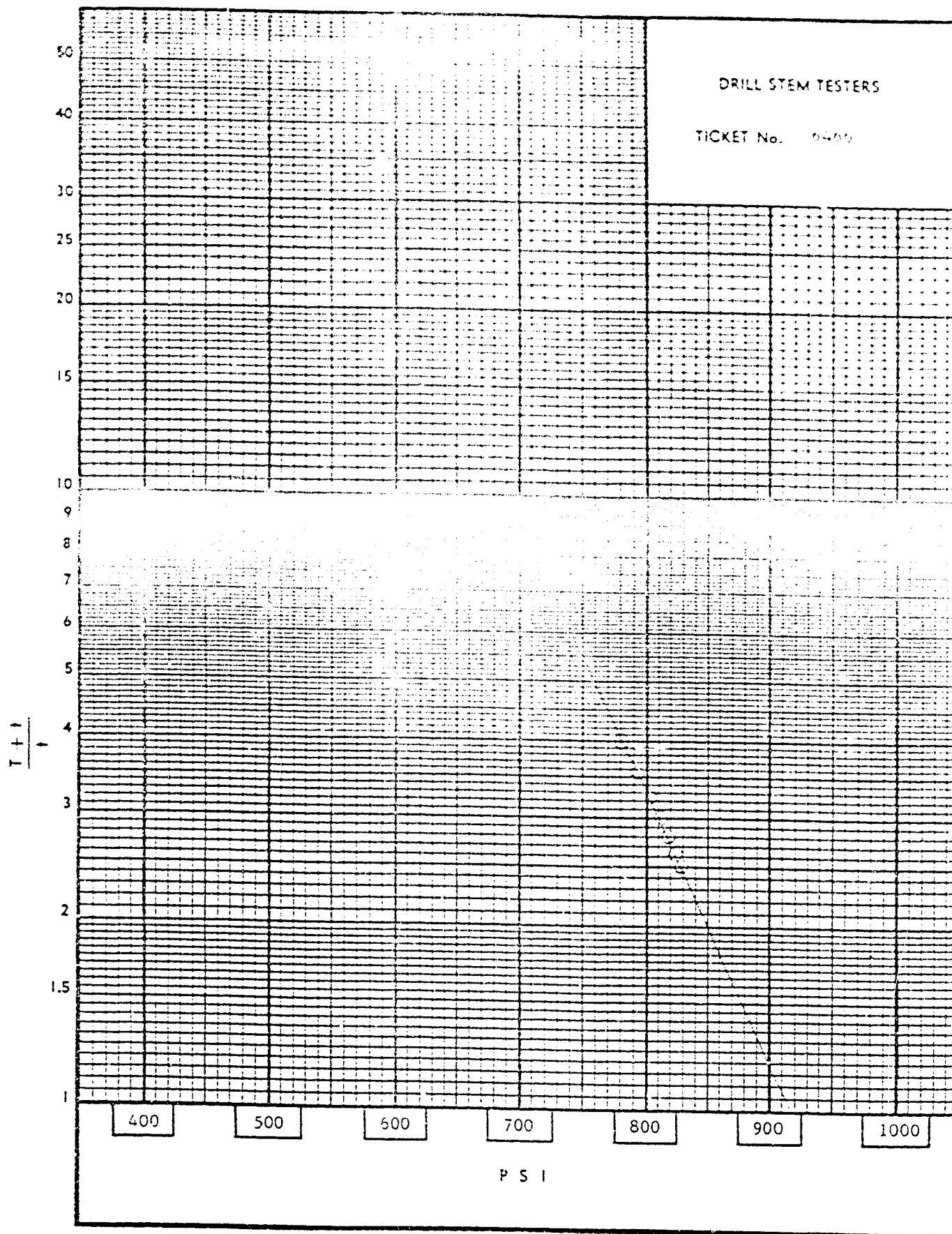
$$E.D.R. = \frac{P_o - P_f}{m_o (\log T + 1.75)} \quad \text{or} \quad \frac{P_o - P_f}{m_g (\log T + 3.85)} \frac{839 - 89}{248 (2.25 + 1.75)} = .75 \quad (1) \quad \text{no dimension}$$

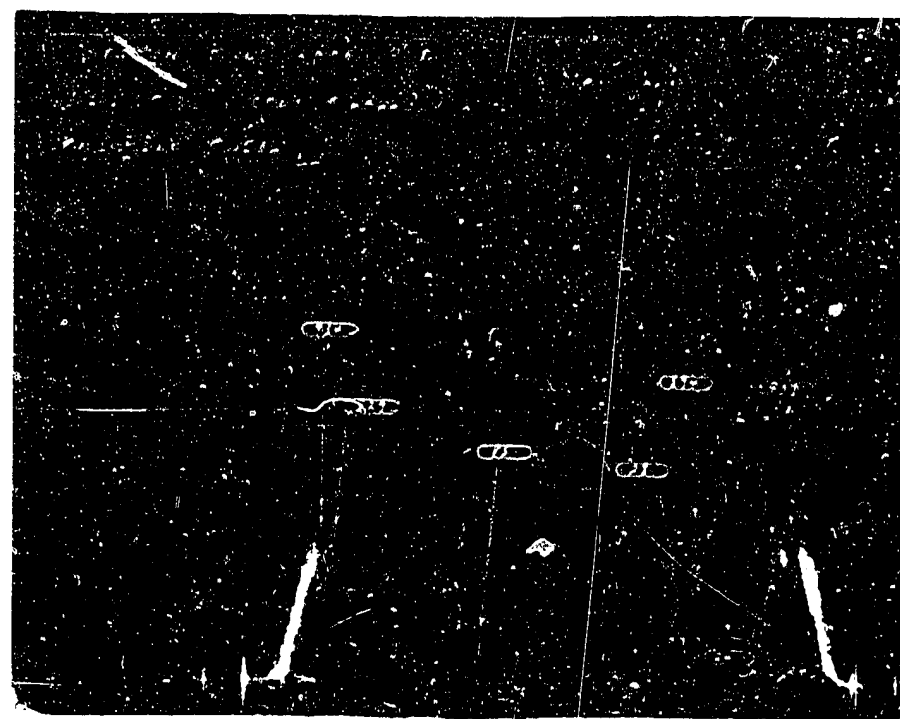
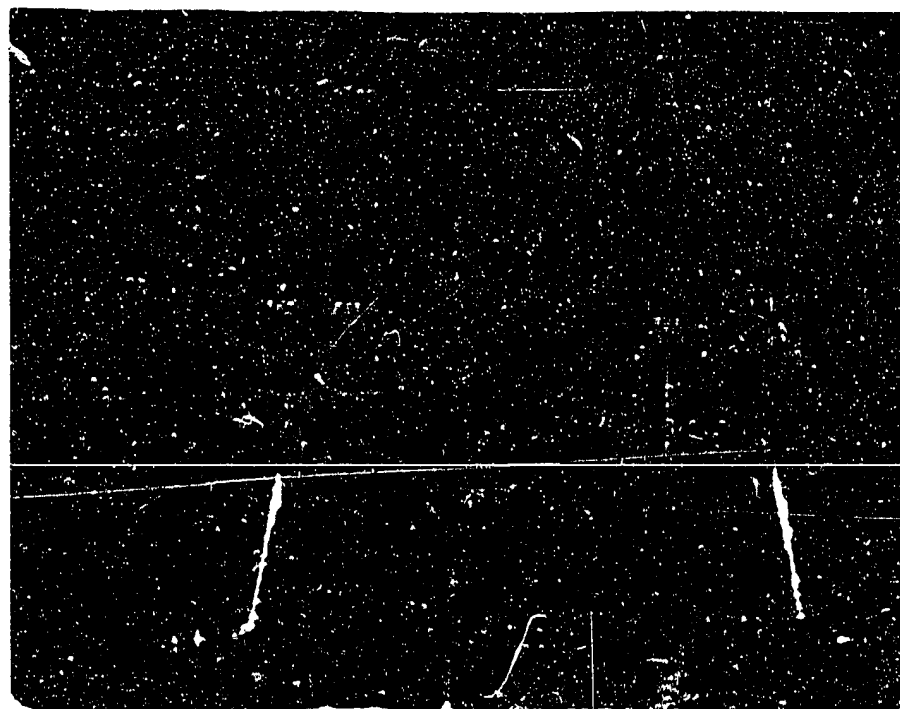
$$\frac{k}{h} = \frac{k h}{h} \quad \text{md}$$

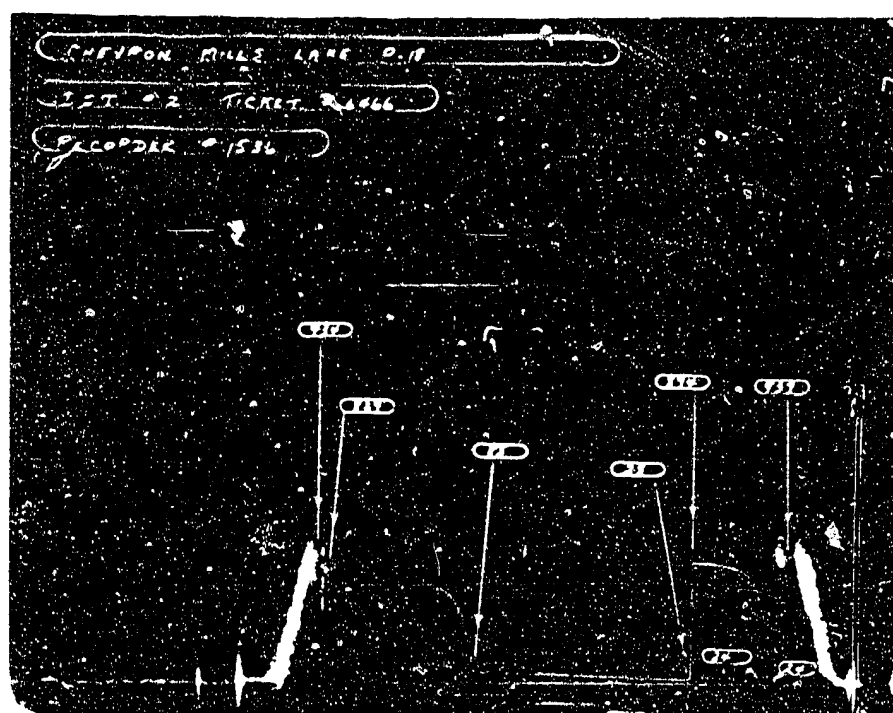
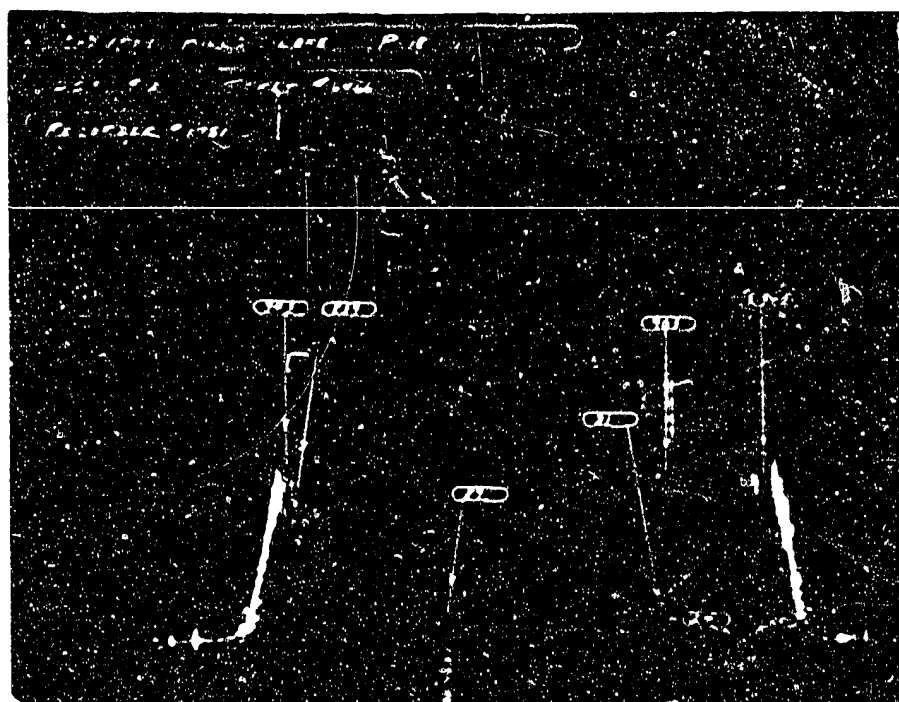
$$P.I. = \frac{Q_o}{P_o - P_f} \quad \text{or} \quad \frac{Q_g}{P_o - P_f} \frac{10}{839 - 89} = .0133 \quad \frac{\text{bbls/day/psi}}{\text{mcf/day/psi}}$$

ASSUMPTIONS AND LIMITATIONS

Interpretation calculations require necessary assumptions to provide a quick estimation of many of the factors involved. Consequently, the calculations herein should be used as an estimate only, pending more complete analysis and testing. Drill Stem Testers makes no warranty express or implied as to the accuracy of such calculations, evaluations, or opinions, and shall not be liable for any loss or damage, whether due to negligence or otherwise, in connection with such calculations and opinions.







CONTRACTOR Tru City Drilling Rigs
Calatom Mills Lake
 WELL No. P-18

☐ DRILLING ☐ DEEPENING ☐ CABLE TOOLS
☐ REDRILLING ☐ ABANDONING ☐ ROTARY

FIELD Wildcat PROPERTY Calston WELL No. P-18
11 P.M.
FOR 24 HOURS ENDING 12 M. March 17 1966

FOR 24 HOURS ENDING

12 M.

March 17 1966.

DRILLING ASSEMBLY			END OF MORNING TOUR						END OF DAYLIGHT TOUR						END OF AFTERNOON TOUR					
STANDS	"	D.P.	NO.					FT.	NO.					FT.	NO.					FT.
	"	D.P.	NO.					FT.	NO.					FT.	NO.					FT.
DOUBLE	"	D.P.						FT.						FT.						FT.
SINGLE	"	O.D.						FT.						FT.						FT.
	"	O.D.						FT.						FT.						FT.
DRILL COLLAR	"	O.D.	NO.					FT.	NO.					FT.	NO.					FT.
REAMER	"	O.D.	KIND					FT.	KIND					FT.	KIND					FT.
STABILIZER	"	O.D.	KIND					FT.	KIND					FT.	KIND					FT.
JARS			KIND					FT.	KIND					FT.	KIND					FT.
BUMPER SUB.			KIND					FT.	KIND					FT.	KIND					FT.
BIT OR CORE BARREL								FT.						FT.						FT.
TOTAL D.P. & TOOLS								FT.						FT.						FT.
KELLY DOWN (BELOW R.B.)								FT.						FT.						FT.
DEPTH OF TOOLS								FT.						FT.						FT.
TOUR			MORNING TOUR						DAYLIGHT TOUR						AFTERNOON TOUR					
DEPTH END OF TOUR			FEET						FEET						FEET					
DEPTH START OF TOUR			FEET						FEET						FEET					
FOOTAGE DRILLED			FEET						FEET						FEET					

[illegible][illegible][illegible]

SIGNATURES	MORNING TOUR	DAYLIGHT TOUR	AFTERNOON TOUR	DEVIATION RECORD		
				Kind	Depth	Reading
DRILLER	P. Dappeler					
DERRICKMAN TOOL DRSR.	D. McCourt					
HELPER	B. Proctor					
HELPER	P. Briszinski					
HELPER						
FIREMAN						
TOOL PUSHER						

[illegible]

CEMENTING, TESTING, FISHING, SPECIAL JOB DETAILS, INCLUDING ENGINEERING SUMMARIES

Felt top of Plug #2 at 60'.

Ran 5 sacks cement at top of surface casing, welded steel plate on top of casing

Released rig at 3:00 AM, March 17, 1966

G. D. Muz - Kozell
SIGNATURE COMPANY ENGINEER

CONTRACTOR TRI CITY DRLG.

FIELD WILD CAT PROPERTY CHIVRON STANDARD WELL No. P15
11 P.M.
FOR 24 HOURS ENDING 12 M. MARCH 16 1966

☐ DRILLING ☐ DEEPENING ☐ CABLE TOOLS
☒ REDRILLING ☐ ABANDONING ☐ ROTARY

DRILLING ASSEMBLY			END OF MORNING TOUR					END OF DAYLIGHT TOUR					END OF AFTERNOON TOUR				
STANDS	"	D.P.	NO.				FT.	NO.				FT.	NO.				FT.
	"	D.P.	NO.				FT.	NO.				FT.	NO.				FT.
DOUBLE	"	D.P.					FT.					FT.					FT.
SINGLE	"	O.D.					FT.					FT.					FT.
	"	O.D.					FT.					FT.					FT.
DRILL COLLAR	"	O.D.	NO.				FT.	NO.				FT.	NO.				FT.
REAMER	"	O.D.	KIND				FT.	KIND				FT.	KIND				FT.
STABILIZER	"	O.D.	KIND				FT.	KIND				FT.	KIND				FT.
JARS			KIND				FT.	KIND				FT.	KIND				FT.
BUMPER SUB.			KIND				FT.	KIND				FT.	KIND				FT.
BIT OR CORE BARREL							FT.					FT.					FT.
TOTAL D.P. & TOOLS							FT.					FT.					FT.
KELLY DOWN (BELOW R.B.)							FT.					FT.					FT.
DEPTH OF TOOLS							FT.					FT.					FT.
TOUR			MORNING TOUR					DAYLIGHT TOUR					AFTERNOON TOUR				
DEPTH END OF TOUR							FEET					FEET					FEET
DEPTH START OF TOUR							FEET					FEET					FEET
FOOTAGE DRILLED							FEET					FEET					FEET

[illegible][illegible][illegible]

SIGNATURES	MORNING TOUR	DAYLIGHT TOUR	AFTERNOON TOUR	DEVIATION RECORD		
				Kind	Depth	Reading
DRILLER	P. Dappeler	P. Dappeler	F. Luisella			
DERRICKMAN TOOL DRSR. ☐	D. M. Court	R. Rizzoli	H. Mandryk			
HELPER	B. Proctor	L. Williams	E. Gobby			
HELPER	P. Rizzoli	R. Cadieux	P. Rizzoli			
HELPER						
FIREMAN						
TOOL PUSHER	J. C. Canoll	J. C. Canoll	J. C. Canoll			

MUD and CHEMICALS ADDED		From	To	OTHER HOURLY OPERATING DETAIL WORK DONE
Kind	Amount			
TOUR 1		12	8	WAIT ON ORDERS (SURE OPEN END)
TOUR 2		8 ⁰⁰	3 ⁰⁰	WAIT ON ORDERS
		3 ⁰⁰	3 ³⁰	RUN PLUG #1
		3 ³⁰	4 ⁰⁰	LAY DOWN PIPE
TOUR 3		4 ⁰⁰	4 ¹⁵	LAY DOWN PIPE
		4 ¹⁵	4 ³⁰	RUN PLUG #2
		4 ³⁰	12 ⁰⁰	W.O.C.

CEMENTING, TESTING, FISHING, SPECIAL JOB DETAILS, INCLUDING ENGINEERING SUMMARIES

Plug #1 1914-1780' Mixed 60sax cement into approx. 15.5 ppg slurry. Proceeded
cement with 10 bbls water, displaced cement w/ 12.5 bbls water.

Plug H.2 25' - 158' Mixed 50 sac cement + 2 1/2 Cu ft. into approx. 15.5 pres. slurry.
Preplaced cement with 2 bbls water displaced cement w/ 1.5 bbls water. Cement in place at 4:30 PM
W.D.C.

G. D. Naegle - Kitzell
SIGNATURE COMPANY ENGINEER

TOUR REPORT

CONTRACTOR

Tri-City Drilling Co

FIELD

Wildcat

PROPERTY

Chevron Standard P-18

millalake

11 P.M.

12 M.

March 15 1966

FOR 24 HOURS ENDING

☐ DRILLING ☐ DEEPENING ☐ CABLE TOOLS☐ REDRILLING ☐ ABANDONING ☐ ROTARY

DRILLING ASSEMBLY

STANDS " D.P. NO. FT. NO. FT. NO. FT. NO. FT.

" D.P. NO. FT. NO. FT. NO. FT. NO. FT.

DOUBLE " D.P. NO. FT. NO. FT. NO. FT. NO. FT.

SINGLE " O.D. NO. FT. NO. FT. NO. FT. NO. FT.

" O.D. NO. FT. NO. FT. NO. FT. NO. FT.

DRILL COLLAR " O.D. NO. FT. NO. FT. NO. FT. NO. FT.

REAMER " O.D. NO. FT. NO. FT. NO. FT. NO. FT.

STABILIZER " O.D. NO. FT. NO. FT. NO. FT. NO. FT.

JARS NO. FT. NO. FT. NO. FT. NO. FT.

BUMPER SUB. NO. FT. NO. FT. NO. FT. NO. FT.

BIT OR CORE BARREL NO. FT. NO. FT. NO. FT. NO. FT.

TOTAL D.P. & TOOLS NO. FT. NO. FT. NO. FT. NO. FT.

KELLY DOWN (BELOW R.B.) NO. FT. NO. FT. NO. FT. NO. FT.

DEPTH OF TOOLS NO. FT. NO. FT. NO. FT. NO. FT.

TOUR MORNING TOUR DAYLIGHT TOUR AFTERNOON TOUR

DEPTH END OF TOUR 1914 FEET FEET FEET

DEPTH START OF TOUR FEET FEET FEET

FOOTAGE DRILLED FEET FEET FEET

DAY WORK HOURS HOURS HOURS

2.00 A.M. 4.00 A.M. 6.00 A.M. 8.00 A.M. 10.00 A.M. 12.00 A.M. 2.00 P.M. 4.00 P.M. 6.00 P.M. 8.00 P.M. 10.00 P.M. 12.00 P.M.

PUMP PRESSURE p.s.i. 600

ROTARY SPEED r.p.m.

WEIGHT ON BIT Tons

p.H. 11 11 11

MUD WEIGHT #/gal. 99 9.9 9.9

MUD VISCOSITY Sec. 72 100 76

MUD CAKE 32nds 7.5 7.4 7.8

WATER LOSS c.c.

PIT VOLUME Ft.-Ins.

NO. SIZE SERIAL BIT OR CORE BARREL KIND AND TYPE TOTAL HOURS FROM TO Total Bit Footage Core Recovery BIT CONDITION

MUD and CHEMICALS ADDED

Kind Amount From To

TOUR 1 12.00 8.00 Wait on Schlumberger

CEMENTING, TESTING, FISHING, SPECIAL JOB DETAILS, INCLUDING ENGINEERING SUMMARIES

Run Schlumberger TES log from TD to casing shoe

G.D. Nagg-King
SIGNATURE COMPANY ENGINEER

TOUR REPORT

CONTRACTOR Tri-City Rig #4FIELD WildcatPROPERTY CherryWELL No. P-18☐ DRILLING ☐ DEEPENING ☐ CABLE TOOLS
☐ REDRILLING ☐ ABANDONING ☒ ROTARY

F.C.R. 24 HOURS ENDING

11 P.M.

12 M.

March 14

1966

DRILLING ASSEMBLY	END OF MORNING TOUR	END OF DAYLIGHT TOUR	END OF AFTERNOON TOUR
STANDS " D.P.	NO. FT.	NO. FT.	NO. FT.
" D.P.	NO. FT.	NO. FT.	NO. FT.
DOUBLE " D.P.	FT. 25	FT.	FT.
SINGLE " O.D.	FT.	FT.	FT.
" O.D.	FT.	FT.	FT.
DRILL COLLAR " O.D.	NO. FT.	NO. 8 FT.	NO. FT.
REAMER " O.D.	KIND FT.	KIND FT.	KIND FT.
STABILIZER " O.D.	KIND FT.	KIND FT.	KIND FT.
JARS	KIND FT.	KIND FT.	KIND FT.
BUMPER SUB.	KIND FT.	KIND FT.	KIND FT.
BIT OR CORE BARREL	FT.	FT.	FT.
TOTAL D.P. & TOOLS	FT.	FT.	FT.
KELLY DOWN (BELOW R.B.)	FT.	FT.	FT.
DEPTH OF TOOLS	FT.	FT.	FT.
TOUR	MORNING TOUR	DAYLIGHT TOUR	AFTERNOON TOUR
DEPTH END OF TOUR	FEET	1914 FEET	1914 FEET
DEPTH START OF TOUR	FEET	1914 FEET	1914 FEET
FOOTAGE DRILLED	FEET	0 FEET	0 FEET

DAY WORK	2.00 A.M.	4.00 A.M.	6.00 A.M.	8.00 A.M.	10.00 A.M.	12.00 A.M.	2.00 P.M.	4.00 P.M.	6.00 P.M.	8.00 P.M.	10.00 P.M.	12.00 P.M.
PUMP PRESSURE p.s.i.				700		800						
ROTARY SPEED r.p.m.												
WEIGHT ON BIT Tons												
p.H.				11		11						
MUD WEIGHT #/gal.				9.8		9.9		9.9	9.9	9.9	9.9	
MUD VISCOSITY Sec.				45		70		82	82	84	84	
MUD CAKE 32nds												
WATER LOSS c.c.				3/32 25		3/16				3/16 7.6		
PIT VOLUME Ft.-Ins.												

NO.	SIZE	SERIAL	BIT OR CORE BARREL KIND AND TYPE	TOTAL HOURS	FROM	TO	Total Bit Footage	Core Recov'y	BIT CONDITION

CUTTER NO.	TYPE	IN AT - FT.	OUT AT - FT.	CENTRE BIT No.	CATCHER No.	TYPE	IN AT - FT.	OUT AT - FT.

SIGNATURES	MORNING TOUR	DAYLIGHT TOUR	AFTERNOON TOUR	DEVIATION RECORD
DRILLER	Joseph A. Katchin	Peter Deppeler	Harold L. Lohle	Kind Depth Reading
DERRICKMAN TOOL DRSR.	David McCourt	Robert Rizzoli	HARRY MENDRYL	S.S. 1914 174
HELPER	Bruce Proctor	Larry Williams	EDWARD GOLBY	
HELPER	Paul Rizzoli	Ray Cochran	LARRY WILLIAMS	
HELPER				
FIREMAN				
TOOL PUSHER	J. E. Carroll	J. E. Carroll	J. E. Carroll	

MUD and CHEMICALS ADDED	From	To	OTHER HOURLY OPERATING DETAIL WORK DONE
Kind Amount			
TOUR 1			WAIT ON LOGGERS
TOUR 2		8 830	Rig Serv - check BOP - RUN SURVEY
Gel	1000	830	WAIT ON LOGGERS
TANNATHIN	180		
CAUSTIC	50		
TOUR 3	4:00	12:00	WAIT ON SCHLUMBERGER

CEMENTING, TESTING, FISHING, SPECIAL JOB DETAILS, INCLUDING ENGINEERING SUMMARIES

G. D. Nazzari-King
SIGNATURE COMPANY ENGINEER

TOUR REPORT

CONTRACTOR

Tri-City Drilling Co.
Chesapeake Standard P-18, MiddlelakeFIELD *Wildcat*

PROPERTY

11 P.M.

12 M.

March 13

1966

☒ DRILLING ☐ DEEPENING ☐ CABLE TOOLS
☐ REDRILLING ☐ ABANDONING ☒ ROTARY

FOR 24 HOURS ENDING

DRILLING ASSEMBLY		END OF MORNING TOUR					END OF DAYLIGHT TOUR					END OF AFTERNOON TOUR				
STANDS	" D.P.	NO.				FT.	NO.				FT.	NO.				FT.
"	" D.P.	NO.				FT.	NO.				FT.	NO.				FT.
DOUBLE	" D.P.	25	15	39	10	FT.	25				FT.					FT.
SINGLE	" O.D.	1		30	91	FT.					FT.					FT.
"	" O.D.					FT.					FT.					FT.
DRILL COLLAR	" O.D.	NO. 8		238	08	FT.	NO. 8		238	08	FT.	NO.				FT.
REAMER	" O.D.	KIND				FT.	KIND				FT.	KIND				FT.
STABILIZER	" O.D.	KIND				FT.	KIND				FT.	KIND				FT.
JARS	" O.D.	KIND				FT.	KIND				FT.	KIND				FT.
BUMPER SUB.	" O.D.	KIND				FT.	KIND				FT.	KIND				FT.
BIT OR CORE BARREL				79	10	FT.					FT.					FT.
TOTAL D.P. & TOOLS						FT.					FT.					FT.
KELLY DOWN (BELOW R.B.)				3580		FT.			8		FT.					FT.
DEPTH OF TOOLS						FT.					FT.					FT.
TOUR																
DEPTH END OF TOUR			1914			FEET					FEET					FEET
DEPTH START OF TOUR			1904			FEET					FEET					FEET
FOOTAGE DRILLED			10			FEET					FEET					FEET

DAY WORK		HOURS				HOURS				HOURS			
		2.00 A.M.	4.00 A.M.	7.30 A.M.	8.00 A.M.	10.00 A.M.	12.00 A.M.	2.00 P.M.	4.00 P.M.	6.00 P.M.	8.00 P.M.	10.00 P.M.	12.00 P.M.
PUMP PRESSURE	p.s.i.	900											
ROTARY SPEED	r.p.m.	90											
WEIGHT ON BIT	Tons	15M											
p.H.				10									
MUD WEIGHT	#/gal.	96		9.8						9.5	9.5	9.5	
MUD VISCOSITY	Sec.	81		57						45	45	55	58
MUD CAKE	32nds			2/32 10						9.5 3/2			
WATER LOSS	c.c.												
PIT VOLUME	Fit.-Ins.												

NO.	SIZE	SERIAL	BIT OR CORE BARREL KIND AND TYPE	TOTAL HOURS	FROM	TO	Total Bit Footage	Core Recov'y	BIT CONDITION
1-B	6'2	6633-C	American Goldset	48 3/4	1800	1914	114	113 1/2	Good

CUTTER NO.	TYPE	IN AT - FT.	OUT AT - FT.	CENTRE BIT NO.	CATCHER NO.	TYPE	IN AT - FT.	OUT AT - FT.

SIGNATURES		MORNING TOUR	DAYLIGHT TOUR	AFTERNOON TOUR	DEVIATION RECORD		
DRILLER		J. A. Katchum	Peter Dappeler	E. Linnell	Kind	Depth	Reading
DERRICKMAN		David McCourt	Robert Rizzoli	H. Mendez			
TOOL DRSR.		Bruce Proctor	Larry Williams	E. Galtz			
HELPER		Paul Rizzoli	Roy Cochran	L. Williams			
HELPER				B. Proctor			
HELPER							
FIREMAN							
TOOL PUSHER		J. E. Carroll	J. E. Carroll	J. E. Carroll			

MUD and CHEMICALS ADDED		From	To	OTHER HOUR OPERATING DETAIL	
Kind	Amount			WORK DONE	
TOUR 1		1200	315	Cut core #4	
		315	415	trip out with core (measure and Pipe	
		415	545	recover core, lay down barrel	
		545	630	run in with bit to condition hole-5' fill	
		630	730	condition hole	
		730	800	trip out to run test	
TOUR 2		8	815	Trip out	
		815	845	Pick up & make up packer	
		845	900	Rig Service & check BOP's	
		900	945	Run in	
		945	400	Rig to & Testing	
TOUR 3		4:00	4:45	Hoist D.S.T	
		4:45	5:30	Load Out Tool	
GEL	1000#	5:30	6:00	Run in w/ BIT	
		6:00	12:00	CIRC. WAIT ON SCHLUMBERGER	

CEMENTING, TESTING, FISHING, SPECIAL JOB DETAILS, INCLUDING ENGINEERING SUMMARIES

Tally: 1913.00

Cut Core #4 1867-1914 Recovered 47'-100%. 47' core in 15 3/4 hr.

Board: 1914.00

Diff: 1.00

DST #2 (1845-1914) Keg River & Chirchaga formations. Testing Co: Drillstem Testers Ltd. 6' 1/2" diameter
rathole 3 1/2" IF drill pipe 2 1/2" - 4 1/2" 40#/ft D.C. above tool. Bottom hole test. The tool was
equipped w/ 1-5 1/2" bobtail packer, 1/2" choke, safety pt. immediately above packer, and jors. Pump out sub
180' above tool. Pressure recorder: 1-outside & 1-inside Kuster RK-1 4300psi & 5200psi at 1850' & 1835'
Top of 6' 1/2" rathole at 1800'. Length of tail pipe 69' below packer, perf'd 2'. Overall length of tool
93.85'. Preflow 10 min. 9:50 AM - 10:00 AM. Initial SI 60 min 10:00 AM - 11:00 AM. Final flow: 180 mls.
11:00 AM - 2:00 PM. Final SI 120 mls. 2:00 PM - 4:00 PM.

Preflow: faint air blow

Flow period: very faint blow for 180 min. No gas or oil to surface. Recovered 140' muddy salt
water. 20' water cut mud above tool. Mud wt before test: 9.8 ppg, after: 8.8 ppg. Cl of mud
before test: 6,000 ppm. Cl of recovered water 20,000-31,000, Cl of water cut mud: 40,000 ppm. Extra
tension to unsat packer 20,000 #

Pressures: Initial shut in: 902 psi

Formation temp. 96°F

Initial flow: 42

Initial hydrostatic: 944

Final shut in: 843

Final flow: 89

Final hydrostatic: 944

Test O.K.

G. D. Kopp-King
SIGNATURE COMPANY ENGINEER

TOUR REPORT

CONTRACTOR

Tri-City Drilling Co

FIELD *Wildcat*

PROPERTY

Chevron Standard

WELL No.

P. 18 mile lake

☒ DRILLING ☐ DEEPENING ☐ CABLE TOOLS
☐ REDRILLING ☐ ABANDONING ☐ ROTARY

FOR 24 HOURS ENDING

11 P.M.

12 M.

March 12

1966

DRILLING ASSEMBLY	END OF MORNING TOUR	END OF DAYLIGHT TOUR	END OF AFTERNOON TOUR
STANDS " D.P.	NO.	NO.	NO.
" D.P.	NO.	NO.	NO.
DOUBLE " D.P.	25	25	25
SINGLE " O.D.			1
" O.D.			
DRILL COLLAR " O.D.	NO. 8	NO. 8	NO. 8
REAMER " O.D.	KIND	KIND	KIND
STABILIZER " O.D.	KIND	KIND	KIND
JARS	KIND	KIND	KIND
BUMPER SUB.			
BIT OR CORE BARREL			
TOTAL D.P. & TOOLS			
KELLY DOWN (BELOW R.B.)	17' 80"	2' up	
DEPTH OF TOOLS			
TOUR	MORNING TOUR	DAYLIGHT TOUR	AFTERNOON TOUR
DEPTH END OF TOUR	18' 56"	18' 82"	19' 04"
DEPTH START OF TOUR		18' 67"	18' 82"
FOOTAGE DRILLED	11'	15'	22'

DAY WORK	2.00 A.M.	4.00 A.M.	6.00 A.M.	8.00 A.M.	10.00 A.M.	12.00 A.M.	2.00 P.M.	4.00 P.M.	6.00 P.M.	8.00 P.M.	10.00 P.M.	12.00 P.M.
PUMP PRESSURE p.s.i.	1000	1000			1000		1000	1000	1000	1000	1000	1000
ROTARY SPEED r.p.m.	90	90			90		90	90	90	90	90	90
WEIGHT ON BIT Tons	18M	15M	TR	P	14M		14	14	14	14	14	14
p.h.	11				11			11				
MUD WEIGHT #/gal.	10				9.9		9.6	9.6	9.6	9.6		
MUD VISCOSITY Sec.	63				60		53	53	53	60		
MUD CAKE 32nds					326							
WATER LOSS c.c.	6											
PIT VOLUME Ft.-Ins.												

NO.	SIZE	SERIAL	BIT OR CORE BARREL KIND AND TYPE	TOTAL HOURS	FROM	TO	Total Bit Footage	Core Recovery	BIT CONDITION
1-B	6 1/2	6633-C	American Cold set	33	1800	1867	67	66.50	6000
1-B	6 1/2	6633-C	" "		1800				

CUTTER NO.	TYPE	IN AT - FT.	OUT AT - FT.	CENTRE BIT No.	CATCHER No.	TYPE	IN AT - FT.	OUT AT - FT.

SIGNATURES	MORNING TOUR	DAYLIGHT TOUR	AFTERNOON TOUR	DEVIATION RECORD		
				Kind	Depth	Reading
DRILLER	A. Katchura	Peter John Pappas	E. Lavelle			
DERRICKMAN TOOL DRSR.	Daniel McCourt	R. Rizzoli	H. Brundage			
HELPER	Bruce Proctor	L. Williams	E. Lavelle			
HELPER	Paul Riggoli	R. Cadieux	L. Williams			
HELPER			P. Pappas			
FIREMAN						
TOOL PUSHER	J. E. Carroll	J. E. Carroll	J. E. Carroll			

MUD and CHEMICALS ADDED	From	To	OTHER HOURLY OPERATING DETAIL WORK DONE
Kind	Amount		
TOUR 1			Cutting core #3 Trip out with core #3 recovered core, service barrel Wait Order Pick up gear & start in hole
	12.00	4.45	
	4.45	6.00	
	6.00	7.00	
	7.00	7.45	
	7.45	8.00	
TOUR 2			Rig Service + check BOP & Run in w/ core barrel Clean to bottom - 15' fill Cut core No 4 Mud Fluffed up - mixing mud - work on pump Cut core No 4
	8	8.15	
50' Bore in	8.15	9.00	
50' CRUSTIC	9	9.30	
1100' Soda ash	9.30	1.15	
	1.15	3.00	
	3	4	
TOUR 3			Rig Service Cut core #4
	4.00	4.15	
180' TANNATHIN	4.15	12.00	
50' CRUSTIC			
800' GEL			

CEMENTING, TESTING, FISHING, SPECIAL JOB DETAILS, INCLUDING ENGINEERING SUMMARIES

Cut core #3 1840 - 1867 Recovered 27' - 100% 27' core in 12 1/2 hrs
Core jammed at 1867' - pulled

G. D. Nazzari
SIGNATURE COMPANY ENGINEER

TOUR REPORT

CONTRACTOR

Tri-City Ndg Co

FIELD *Wildcat*PROPERTY *Chevron Standard Well No. P-18 mile lake*

11 P.M.

12 M.

March 11

1966

☒ DRILLING ☐ DEEPENING ☐ CABLE TOOLS
☐ REDRILLING ☐ ABANDONING ☐ ROTARY

FOR 24 HOURS ENDING

DRILLING ASSEMBLY			END OF MORNING TOUR					END OF DAYLIGHT TOUR					END OF AFTERNOON TOUR				
STANDS	"	D.P.	NO.				FT.	NO.				FT.	NO.				FT.
	"	D.P.	NO.				FT.	NO.				FT.	NO.				FT.
DOUBLE	"	D.P.	25	15	38	40	FT.					FT.					FT.
SINGLE	"	O.D.	1		21	01	FT.					FT.					FT.
	"	O.D.					FT.					FT.					FT.
DRILL COLLAR	"	O.D.	NO. 8	2	39	08	FT.	NO.				FT.	NO.				FT.
REAMER	"	O.D.	KIND				FT.	KIND				FT.	KIND				FT.
STABILIZER	"	O.D.	KIND				FT.	KIND				FT.	KIND				FT.
JARS			KIND				FT.	KIND				FT.	KIND				FT.
BUMPER SUB.			KIND				FT.	KIND				FT.	KIND				FT.
BIT OR CORE BARREL							FT.					FT.					FT.
TOTAL D.P. & TOOLS							FT.					FT.					FT.
KELLY DOWN (BELOW R.B.)				32	80		FT.					FT.					FT.
DEPTH OF TOOLS							FT.					FT.					FT.
TOUR																	
DEPTH END OF TOUR				1840			FEET					FEET		1856			FEET
DEPTH START OF TOUR							FEET					FEET		1840			FEET
FOOTAGE DRILLED							FEET					FEET		16			FEET

DAY WORK	HOURS				HOURS				HOURS			
	2.00 A.M.	4.00 A.M.	6.00 A.M.	8.00 A.M.	10.00 A.M.	12.00 A.M.	2.00 P.M.	4.00 P.M.	6.00 P.M.	8.00 P.M.	10.00 P.M.	12.00 P.M.
PUMP PRESSURE p.s.i.	9000								1000	1000	1000	1000
ROTARY SPEED r.p.m.									82	82	82	82
WEIGHT ON BIT Tons									14	14	14	14
p.H.	10.5	10.5	TRIP		DST#1				11			
MUD WEIGHT #/gal.	10	10						4.9	9.9	9.9	9.9	9.9
MUD VISCOSITY Sec.	62	70						65	65	65	65	65
MUD CAKE 32nds												
WATER LOSS c.c.	6							5.6				
PIT VOLUME Fr.-Ins.												

NO.	SIZE	SERIAL	BIT OR CORE BARREL KIND AND TYPE	TOTAL HOURS	FROM	TO	Total Bit Footage	Core Recov'y	BIT CONDITION
4B	6 1/8	6633-C	American Coltset		1800				

CUTTER NO.	TYPE	IN AT - FT.	OUT AT - FT.	CENTRE BIT No.	CATCHER No.	TYPE	IN AT - FT.	OUT AT - FT.

SIGNATURES	MORNING TOUR			DAYLIGHT TOUR			AFTERNOON TOUR			DEVIATION RECORD		
	DRILLER	DECKMAN	TOOL PUSHER	DRILLER	DECKMAN	TOOL PUSHER	DRILLER	DECKMAN	TOOL PUSHER	Kind	Depth	Reading
	J. A. Katchum	J. Mc Court		P. Deppeler	R. Rizzoli		E. Linnell					
	B. Proctor			L. Williams			E. Linnell					
	P. Rizzoli			R. Adams			J. Williams					
							B. Proctor					
	J. E. Linnell			J. E. Linnell			J. E. Linnell					

MUD and CHEMICALS ADDED		From	To	OTHER HOURLY OPERATING DETAIL	
Kind	Amount			WORK DONE	
TOUR 1		12.00	12.15	Service Rig	
Caustic	50#	1.00	4.00	Run in hole (to condition mud & hole)	
Fannithin	50#	4.00	5.00	condition mud & circulate hole clean	
Gel	1500#	5.00	7.00	trip out to run test	
		7.00	8.00	pick up test tool, make up & run in	
				testing	
	8	1.30		testing	
	130	2.30		HOIST PACKER	
TOUR 2		2.30	3.00	LAY DOWN PACKER + PICK UP CORE B.B.	
		3.00	3.45	RUN IN W/ 13B1	
		3.45	4.00	Circ 661	
TOUR 3		4.00	4.15	Rig SERVICE	
		4.15	12.02	CUT CORE #3	

CEMENTING, TESTING, FISHING, SPECIAL JOB DETAILS, INCLUDING ENGINEERING SUMMARIES

Checked Hydral and motor shut off - O.K.

DST #1 (1825-1840') Mag River formation. Testing Co: Drill Stem Tester Ltd. 6 1/8" rothole, 3 1/2" IF drill pipe. Bottom hole test. The tool was equipped w/ 1-5 1/2" bobtail packer, 1/2" choke, safety pt immediately above packer, and joint. Pump out sub 180' above tool. Pressure recorder 2-Kuster AK-1 4300 psi & 5200 psi. Outside recorder at 1830' & 1835'. Top of 6 1/8" rothole at 1800'. Length of tail pipe 15' below packer, perf'd 2'. Overall length of tool: 39'-65'. Preflow: 10 min. 7:20 AM-7:30 AM. Initial Shut In: 60 min. 7:30 AM-8:30 AM. Final Shut In: 120 min. 11:30 AM-1:30 PM. 8-4 1/2" 40 #/ft D.C. above tool.

Preflow: faint blow of air

Flow period: steady faint blow of air (less than 1' under water) for 180 min. No gas or fluid to surface.

Recovered one quart of dark brn. oil, 1 ft of oil cut mud, 140 ft of salt water, 1 ft of water cut mud above tool. Mud wt before test: 10 ppg, after test 8.8 ppg. Cl of mud before test approx. 4000 ppm, after test 90-9500 ppm. Cl of water 75,000 ppm. Extra tension to unseat packer: 5,000 #

Pressure: Initial Shut in 923 psi

Formation temp: 88°F

Initial flow 42 psi

Drilling mud dropped zero ft.

Final flow 78 psi

Final shut in 106 psi

Initial hydrostatic 976 psi

Final hydrostatic 957 psi

G. D. Napp-King

SIGNATURE COMPANY ENGINEER

TOUR REPORT

CONTRACTOR *Tri-City Drilling Co*
FIELD *Wildcat* PROPERTY *Chevron Standard* WELL No. *P18 millstone*
11 P.M. *March 10* 1966☒ DRILLING ☐ DEEPENING ☐ CABLE TOOLS
☐ REDRILLING ☐ ABANDONING ☒ ROTARY

FOR 24 HOURS ENDING

12 M.

1966

DRILLING ASSEMBLY	END OF MORNING TOUR					END OF DAYLIGHT TOUR					END OF AFTERNOON TOUR								
STANDS " D.P.	NO.				FT.	NO.				FT.	NO.				FT.				
" D.P.	NO.				FT.	NO.				FT.	NO.				FT.				
DOUBLE " D.P.	24		1	4	7	26				FT.					FT.				
SINGLE " O.D.					FT.					FT.					FT.				
" O.D.					FT.					FT.					FT.				
DRILL COLLAR " O.D.	NO. 8		2	3	8	08				FT.	NO.				FT.				
REAMER " O.D.	KIND				FT.	KIND				FT.	KIND				FT.				
STABILIZER " O.D.	KIND				FT.	KIND				FT.	KIND				FT.				
JARS	KIND				FT.	KIND				FT.	KIND				FT.				
BUMPER SUB.	KIND				FT.	KIND				FT.	KIND				FT.				
BIT OR CORE BARREL				7	3	9	0			FT.					FT.				
TOTAL D.P. & TOOLS					FT.					FT.					FT.				
KELLY DOWN (BELOW R.B.)					FT.					FT.					FT.				
DEPTH OF TOOLS					FT.					FT.					FT.				
TOUR	MORNING TOUR					DAYLIGHT TOUR					AFTERNOON TOUR								
DEPTH END OF TOUR			1	8	1	3			1	8	2	3			1	8	4	0	FEET
DEPTH START OF TOUR			1	8	0	2			1	8	1	3			1	8	2	3	FEET
FOOTAGE DRILLED			1	1					1	0					2	7			FEET

DAY WORK	HOURS				HOURS				HOURS			
	2.00 A.M.	4.00 A.M.	6.00 A.M.	8.00 A.M.	10.00 A.M.	12.00 A.M.	2.00 P.M.	4.00 P.M.	6.00 P.M.	8.00 P.M.	10.00 P.M.	12.00 P.M.
PUMP PRESSURE p.s.i.	900	900	900	900	900	+	1000	1000	1000	1000		
ROTARY SPEED r.p.m.	90	90	90	90	90	R	80	80	84	84		
WEIGHT ON BIT Tons	12M	12M	12M	12M	12M	1	14	14	14	14	TRIP	
p.H.					11	P	11	11	11	11		
MUD WEIGHT #/gal.	9.8	9.8	9.8	9.8	9.8		9.8	9.8	9.8	9.8		
MUD VISCOSITY Sec.	47	52	54	52	50		50	50	50	50		
MUD CAKE 32nds c.c.					45		4.5	4.5	6	6		
PIT VOLUME Ft.-Ins.												

NO.	SIZE	SERIAL	BIT OR CORE BARREL KIND AND TYPE	TOTAL HOURS	FROM	TO	Total Bit Footage	Core Recovery	BIT CONDITION
38	6 1/2	6633C	American Coldchill	20 1/2	1800	1840	40	39.50'	Good

CUTTER NO.	TYPE	IN AT - FT.	OUT AT - FT.	CENTRE BIT No.	CATCHER No.	TYPE	IN AT - FT.	OUT AT - FT.

SIGNATURES	MORNING TOUR	DAYLIGHT TOUR	AFTERNOON TOUR	DEVIATION RECORD		
	Kind	Depth	Reading			
DRILLER	J. A. Katchun	P. J. Deppelas	E. L. Loeche			
DERRICKMAN	David McCourt	R. Rizzoli	H. MENDRYK			
TOOL DRSR.	Bruce Proctor	L. Williams	E. GLEBY			
HELPER	Paul Rizzoli	R. Cadieux	L. Williams			
HELPER			R. Rizzoli			
HELPER						
FIREMAN						
TOOL-PUSHER	J. B. Carroll	J. B. Carroll	J. B. Carroll			

MUD and CHEMICALS ADDED		From	To	OTHER HOURLY OPERATING DETAIL	
Kind	Amount			WORK DONE	
TOUR 1		12:00		Cutting Core #1	
Caustic	50#				
B.B. resin	50#				
Jannothin	50#				
TOUR 2		8:00	10:15	CUTTING CORE #2	
		10:15		Hoist CORE #1 - RECOVER CORE - SERVICE 66	
			12:30	CHECK BOPS - SERVICE 719 - RUN IN W/ BBL	
		12:30	1:00	Clean to bottom - 15' fill	
		1:00	4:00	Cut core #2	
TOUR 3		4:00	10:00	CUT CORE #2	
		10:00	10:15	LINE SAMPLE	
		10:15	12:00	Hoist CORE #2, RECOVER CORE, SHNU BREAK	
				Bbl	

CEMENTING, TESTING, FISHING, SPECIAL JOB DETAILS, INCLUDING ENGINEERING SUMMARIES

Cut core #1 17' 1800-1817 Recovery: 100%. 17' of core in 11 1/2 hrs.
checked bit - O.K. Ran bad some bit
Cut core #2 23' 1817-1840 Recovery: 22.30' ~98%. 23' of core in 9 hrs.

G. D. Nag - Kizh
SIGNATURE COMPANY ENGINEER

TOUR REPORT

CONTRACTOR

Tri-City Drilling Co

☒ DRILLING ☐ DEEPENING ☐ CABLE TOOLS
☐ REDRILLING ☐ ABANDONING ☒ ROTARY

FIELD

Widlat

PROPERTY

Churon Standard

WELL No.

P-12 milllake

11 P.M.

12 M.

March 9

1966

FOR 24 HOURS ENDING

DRILLING ASSEMBLY	END OF MORNING TOUR	END OF DAYLIGHT TOUR	END OF AFTERNOON TOUR
STANDS " D.P.	NO. FT.	NO. FT.	NO. FT.
" D.P.	NO. FT.	NO. FT.	NO. FT.
DOUBLE " D.P.	25 153840 FT.	25 153840 FT.	24 147627 FT.
SINGLE " O.D.	FT.	FT.	FT.
" O.D.	FT.	FT.	FT.
DRILL COLLAR " O.D.	NO. 8 23808 FT.	NO. 8 23808 FT.	NO. 8 23808 FT.
REAMER " O.D.	KIND FT.	KIND FT.	KIND FT.
STABILIZER " O.D.	KIND FT.	KIND FT.	KIND FT.
JARS	KIND FT.	KIND FT.	KIND FT.
BUMPER SUB.	KIND FT.	KIND FT.	KIND FT.
BIT OR CORE BARREL	FT.	FT.	FT.
TOTAL D.P. & TOOLS	FT.	FT.	FT.
KELLY DOWN (BELOW R.B.)	2352 FT.	2352 FT.	1400 FT.
DEPTH OF TOOLS	FT.	FT.	FT.
TOUR	MORNING TOUR	DAYLIGHT TOUR	AFTERNOON TOUR
DEPTH END OF TOUR	1800 FEET	1800 FEET	1802 FEET
DEPTH START OF TOUR	1768 FEET	1800 FEET	1800 FEET
FOOTAGE DRILLED	32 FEET	0 FEET	2 FEET

DAY WORK	2.00 A.M.	4.00 A.M.	6.00 A.M.	8.00 A.M.	10.00 A.M.	12.00 A.M.	2.00 P.M.	4.00 P.M.	6.00 P.M.	8.00 P.M.	10.00 P.M.	12.00 P.M.
PUMP PRESSURE p.s.i.	900	900	1000	1000	1000	1000	1000					
ROTARY SPEED r.p.m.	120											
WEIGHT ON BIT Tons	18M											
p.h.		10.5	10.5	10.5	10.5	10.5	11	11				
MUD WEIGHT #/gal.	9.8	9.8	9.8	9.8	9.7	9.7	9.7	9.7	9.7			
MUD VISCOSITY Sec.	37	42	48	59	60	50	50	50	52			
MUD CAKE 32nds				2 1/2	2 1/2	7 1/2	7 1/2	6 1/2	6			
WATER LOSS cc.												
PIT VOLUME Ft.-Ins.												

NO.	SIZE	SERIAL	BIT OR CORE BARREL KIND AND TYPE	TOTAL HOURS	FROM	TO	Total Bit Footage	Core Recov'y	BIT CONDITION
2	6 1/4	63955	OCS-1G HW	11	1508	1800	298		2-2-1
1	6 1/8	6632-C	American Goldset		1800				

CUTTER NO.	TYPE	IN AT - FT.	OUT AT - FT.	CENTRE BIT No.	CATCHER No.	TYPE	IN AT - FT.	OUT AT - FT.

SIGNATURES				MORNING TOUR		DAYLIGHT TOUR		AFTERNOON TOUR		DEVIATION RECORD		
				Kind	Depth	Reading						
DRILLER	J. A. Katchen			P. Duppeler			E. Linnell					
DERRICKMAN	David McCourt			R. Rizzoli			H. McHenry					
TOOL DRSR.	Bruce Proctor			L. Williams			E. Bonzy					
HELPER	Paul Rizzoli			R. Cadieux			L. Williams					
HELPER							B. Proctor					
HELPER												
FIREMAN												
TOOL PUSHER	J. E. Carroll			J. E. Carroll			J. E. Carroll					

MUD and CHEMICALS ADDED	From	To	OTHER HOURLY OPERATING DETAIL WORK DONE
Kind	Amount		
TOUR 1			
Sol	1500#	12.00 12.15	Service Rig
Q. Brosin	100#	12.15 3.00	Walg 64 hole
Tannithin	100#	3.00 8.00	Circulate (wait on core hand)
Caustic	100#		
TOUR 2			
Q Brosin	100#	8 8.15	Rig Serv + check ROP's
TANNITHIN	300#	8.15 4.00	Circ & wait on core BBL
CAUSTIC	100#		
TOUR 3			
	4.00 4.15		RIG SERVICE
	4.15 7.30		WAIT ON CORE BBL.
	7.30 8.30		Wait to core (Double Measure out)
	8.30 9.45		Pick up core Bbl
	9.45 10.30		Run in with core Bbl
	10.30 12.00		CORING

CEMENTING, TESTING, FISHING, SPECIAL JOB DETAILS, INCLUDING ENGINEERING SUMMARIES

Tally 1814-66

Board 1812-28

2.38

Change over sub 1.15'

For 8.50

Core barrel 63.50 - 4 3/4"

Diamond bit .75 - 6 1/8"

Total 73.90'

G. D. Noy - Kitching

SIGNATURE COMPANY ENGINEER

TOUR REPORT

CONTRACTOR

Tri-City Drilling Co
Widgat
Chevron Standard

FIELD

PROPERTY

No. P. 18 Mitchell Lake

11 P.M.

12 M.

March 8

1966

☒ DRILLING ☐ DEEPENING ☐ CABLE TOOLS
☐ REDRILLING ☐ ABANDONING ☒ ROTARY

FOR 24 HOURS ENDING

DRILLING ASSEMBLY	END OF MORNING TOUR	END OF DAYLIGHT TOUR	END OF AFTERNOON TOUR
STANDS 3 1/2" D.P.	NO. 12 7 4 1 0 7 FT.	NO. 20 12 3 3 FT.	NO. 24 14 7 6 6 4 FT.
PIPE 3 1/2" D.P.	NO. 12 7 4 1 0 7 FT.	NO. 20 12 3 3 FT.	NO. 1 3 0 6 2 FT.
DOUBLE " D.P.			
SINGLE " O.D.	1 3 0 6 4 FT.	1 3 0 3 0 FT.	
" O.D.			
DRILL COLLAR 4 3/4" O.D.	NO. 8 2 3 8 0 8 FT.	NO. 8 2 3 8 0 8 FT.	NO. 8 2 3 8 0 8 FT.
REAMER " O.D.	KIND	KIND	KIND
STABILIZER " O.D.	KIND	KIND	KIND
JARS	KIND	KIND	KIND
BUMPER SUB.			
BIT OR CORE BARREL			
TOTAL D.P. & TOOLS			
KELLY DOWN (BELOW R.B.)	3 5 8 0 FT.	29 FT.	2 2 8 0 FT.
DEPTH OF TOOLS			
TOUR	MORNING TOUR	DAYLIGHT TOUR	AFTERNOON TOUR
DEPTH END OF TOUR	1 0 4 5 FEET	1 5 3 0 FEET	2 1 7 6 8 FEET
DEPTH START OF TOUR	2 4 2 FEET	1 0 4 5 FEET	1 5 3 0 FEET
FOOTAGE DRILLED	8 0 3 FEET	4 8 5 FEET	2 3 8 FEET

DAY WORK	2.00 A.M.	4.00 A.M.	6.00 A.M.	8.00 A.M.	10.00 A.M.	12.00 A.M.	2.00 P.M.	4.00 P.M.	6.00 P.M.	8.00 P.M.	10.00 P.M.	12.00 P.M.
PUMP PRESSURE p.s.i.	350	400	500	600	700	700	700	850	850	950	950	
ROTARY SPEED r.p.m.	150	180	180	180	180	180	180	180	180	760	160	
WEIGHT ON BIT Tons	10 M	12 M	15 M	15 M	15 M	12	12					
p.H.			7	7	7						9.5	
MUD WEIGHT #/gal.			8.4	9	9.1	8.7	8.7	9.8	9.8	9.6	9.6	
MUD VISCOSITY Sec.				27	27	30	32	30	35	38	38	
MUD CAKE 32nds												
WATER LOSS c.c.											6	
PIT VOLUME Ft.-Ins.												

NO.	SIZE	SERIAL	BIT OR CORE BARREL KIND AND TYPE	TOTAL HOURS	FROM	TO	Total Bit Footage	Core Recovery	BIT CONDITION
1	6 1/4	64600	HW OSC-3	7 1/4	2 13	10 45	832		
2	6 1/4	64688	HW OSC-3	12 3/4	2 13	15 06	1273		22 1
3	6 1/4	63955	HW OSC-18						

CUTTER NO.	TYPE	IN AT - FT.	OUT AT - FT.	CENTRE BIT No.	CATCHER No.	TYPE	IN AT - FT.	OUT AT - FT.

SIGNATURES	MORNING TOUR	DAYLIGHT TOUR	AFTERNOON TOUR	DEVIATION RECORD		
				Kind	Depth	Reading
DRILLER	J. A. Katchur	P. Deppels	E. Linnelle		500	0
DERRICKMAN TOOL DRSR.	David McCourt	R. Rizzoli	H. Mendez		1014	1 1/4
HELPER	Bruce Foster	L. Williams	E. Galby		1506	1 3/4
HELPER	Paul Rizzoli	R. Cadieux	L. Williams			
HELPER			P. Rizzoli			
FIREMAN						
TOOL PUSHER	J. E. Givall	J. E. Givall	J. E. Givall			

MUD and CHEMICALS ADDED	From	To	OTHER HOURLY OPERATING DETAIL WORK DONE
TOUR 1	12.00	12.15	Rig Service
Bi-Lash 100#	12.15	12.30	Dump section Tank & Diaplow hole
Sodium Pyrophosphate 100#	12.30	2.30	Drill 6 1/4 hole
	2.30	2.45	Work on Pump
	2.45	3.30	Drill 6 1/4 hole
	3.30	3.45	Survey 0°
	3.45	8.60	Drill 6 1/4 hole
TOUR 2	8	8.15	Rig Serv - check BOPS - Pull Survey - 1 1/4°
Gel - 1300#	8.15	8.45	Drill 6 1/4 hole
Caustic - 50#	8.45	9.00	Work on pump
BRAXIN - 50#	9.00	12.30	Drill 6 1/4 hole
	12.30	12.45	Work on pump
	12.45	2.00	Drill 6 1/4 hole
	2	2.15	Circ sample
	2.15	2.30	Run survey @ 1505'
TOUR 3	2.30	3.30	Trip for bit
Gel - 3600#	3.30	4.00	Drill 6 1/4 hole
Caustic - 150#	4.00	4.15	Rig Service
Quatracho - 100#	4.15	12.00	Drill 6 1/4 hole
Tamoxifen - 50#			

CEMENTING, TESTING, FISHING, SPECIAL JOB DETAILS, INCLUDING ENGINEERING SUMMARIES

G. D. Napp - Kresky
SIGNATURE COMPANY ENGINEER

CONTRACTOR

CONTRACTOR Tri-City Dsg Co ^{Reg} _{#4}

FIELD *Wildcat*

PROPERTY

PROPERTY *Chevron Standard* WELL No.

11 P.M.

12 M.

March 7

1966

☒ DRILLING ☐ DEEPENING ☐ CABLE TOOLS
☐ REDRILLING ☐ ABANDONING ☒ ROTARY

FOR 24 HOURS ENDING

DRILLING ASSEMBLY	END OF MORNING TOUR	END OF DAYLIGHT TOUR	END OF AFTERNOON TOUR

STANDS	"	D.P.	NO.						FT.	NO.							FT.	NO.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	
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			DEVIATION RECORD		
		Kind	Depth	Reading	
SIGNATURES	MORNING TOUR	DAYLIGHT TOUR	AFTERNOON TOUR		
DRILLER	J. A. Katchur	P. Deppeler	E. Linell		
DERRICKMAN TOOL PUSHER	David McLaughlin	R. Rizzoli	H. HENRIK		
HELPER	Bruce Proctor	L. Williams	E. GARY		
HELPER	Paul Rizzoli	R. Cadieux	R. CADIEUX		
HELPER			B. PROCTOR		
FIREMAN					
TOOL PUSHER	J. P. Hall	J. P. Hall	J. P. Hall		

MUD and CHEMICALS ADDED		From	To	OTHER HOURLY OPERATING DETAIL WORK DONE
Kind	Amount			
TOUR 1		12.00	8.00	W.O.C
TOUR 2		8 11:30 3 ¹⁵	11:30 3:15 4:00	W.O.C slack off + head up Tried to pressure up on blind years Repair hose - repair valve
TOUR 3		4.00		REPAIR CAMERON VALVES (PUT IN NEW PARTS, TRY TWO DIFF VALVES, TAKE VALVE OFF PUMP, INSTALL ON FILL UP LINE TO PRESSURE UP ON BLIND RAMS. 6:30 7:00 PRESSURE UP ON BLIND RAMS, HELD OK @ 750 PSI FOR 15 MIN 7:00 8:30 RUN IN HOLE, BROWN GEL, THRU OUT PIPE RAMS 8:30 9:00 PRESSURE UP ON PIPE RAMS TO 900 PSI, HELD OK FOR 30 MIN 9:00 9:30 PRESSURE UP ON HYDRAULIC TO 750 PSI HELD OK FOR 30 MIN 9:30 11:30 DRILL OUT P.L.G., CEMENT + SHALE 11:30 12:00 DRILL 69 HOLE

CEMENTING, TESTING, FISHING, SPECIAL JOB DETAILS, INCLUDING ENGINEERING SUMMARIES

Ran 6 joints (194.85') of 7" 20# J-55 & Rd Pq#2, new Sals Sumitomo casing, landed at 208.48'. Equipped string with 1-7" Baker float shoe, 1-7" Baker float collar one joint above shoe, 2-Baker CK-14 centralizers (15' & 60' above shoe). Float shoe, float collar and bottom two joints were pinned locked with Baker-Lokto form a solid unit.

String details: 1- 7" Baker float shoe 1.63'

1 ft. 7" 20# 7-55 casing 32.80

1- 7" Baker float collar 1.40

5 jts 7-20 + 7-55 coring 162.05

Total string 197.86

KB to top casing collar 10.60'

Surface casing landed at 208.48 ft

Cementing details: Ran and cemented 197.88' 7" 20# J-55 casing at 208.48' with 85 sac normal cement + 2 1/2 bbls using big cementing unit. Preceded cement with 10 bbls of fresh water. Mixed cement to a 15.5 ppg slurry in 8 min. from 11:12 PM to 11:20 PM. Displaced slurry with rubber plug and fresh water in 5 min. from 11:23 PM to 11:28 PM. Circulated on estimated 5 sac of cement. Cement in place at 11:28 PM, March 6, 1966. Max. displacing pres: 400 psi. Bumped plug at 800 psi. Floats held. W.O.C.

Prhuk tested BOP and casing

Blind ramps 750 psi 15 min. no pre-loss

Pipe ramps 900 psi 30 min. 20 psi loss

Hydrol 750 psi 30 min. 20 psi loss

G. D. Nagy - Kesztyes
SIGNATURE COMPANY ENGINEER

